SACO COMBIMAR S.P.A.
AGENZIA MARITTIMA CONSOLIDATORI N.V.O.C.C.
Sede Operativa e Amministrativa: Via Primo Maggio 1 - 20066 Melzo (MI)
Tel. 02.2743061 www.saco-combimar.it e-mail: info@saco-combimar.it

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F.
Mexico

Attention to:Valentina Froio

Melzo , 02/04/2026

MANIF MA: 202604022SP

# Cargo Manifest



*Cargo Manifest NBR:* **01 2026 910533** *Date* **05/02/2026**
*Port of Loading* **GENOVA GE**
*Port of Discharge* **VERACRUZ**
*Vessel* **CHACABUCO** *Vojage* **613W** *on* **30/03/2026** *Date of Arrival* **13/04/2026**

| Container | Type | Number | Seal | Weight Kg |
|---|---|---|---|---|
| **40 HIGH CUBE** | HC40 | MSKU 187659 1 | SC107723 | |

| HBL | Pcs. | Weight | CBM | Nature of Goods | DLY Terms | Collect Freight Charge |
|---|---|---|---|---|---|---|
| 01/26/107059 | 2 | 948,16 | 1,55 | DANGEROUS - NOT STACKBLE | PREPAID | |
| *Shipper:* | *IMO* MacDermid<br>IT | | | *Consignee:* | Sea Cargo Logistics<br>MX | |
| 01/26/107637 | 1 | 259,00 | 0,21 | . | PREPAID | |
| *Shipper:* | SCAN GLOBAL LOGISTICS<br>ITALY S.R.L.<br>VIA CHEMNITZ N. 5/3<br>59100 PRATO, ITALY IT | | | *Consignee:* | SGL TRANSGROUP DE MEXICO<br>S.A DE C.V.<br>AV.PASEO DE LAS PALMAS 405,<br>INT 501Y 504* MX | |
| 01/26/107694 | 11 | 1.838,19 | 4,80 | heat exchangers hs code 841950 | PREPAID | |
| *Shipper:* | ROHLIG ITALIA S.P.A.<br>VIA ACHILLE GRANDI 12<br>PIOLTELLO MI 20096 Italy<br>IT | | | *Consignee:* | ROHLIG MEXICO, S.A. DE C.V.<br>AV. INSURGENTES SUR 945 PISO 2-B,<br>COL.CIUDAD DE LOS DEPORTES,ALCALDIA<br>78399 BENITO JUAREZ, MX | |
| 01/26/107815 | 7 | 3.640,00 | 7,38 | . | PREPAID | |
| *Shipper:* | NIPPON EXPRESS ITALIA SPA PAINA<br>VIA VALSORDA SNC<br>22044 CREMNAGO DI INVERIGO* CO IT | | | *Consignee:* | BONANZA LOGISTICS SA DE CV<br>CORDOBA 82 COLONIA ROMA<br>CUAUHTEMOC,CIAUDAD DE<br>06700 MEXICO** MX | |
| 01/26/107825 | 17 | 1.031,68 | 4,40 | BALL BEARING PARTS | PREPAID | |
| *Shipper:* | CEVA FREIGHT ITALY S.R.L<br>STRADA LEINI 20<br>10072 TURIN CASELLE ITALY (TO)<br>as agents for Pyramid Lines SG IT | | | *Consignee:* | CEVA A&O MEXICO<br>AV.INSURGENTES SUR 1079,COL.NOCHE<br>BUENA PISO 22 Y 23, BENITO JUAREZ<br>CIUDAD DE MEXICO CMX 03720 MX | |
| 01/26/107911 | 5 | 3.774,24 | 4,20 | . | FOB (EXPORT RUT.) | |
| *Shipper:* | MARAZZI<br>IT | | | *Consignee:* | EUROPARTNERS MEXICO<br>MX | |
| 01/26/107915 | 2 | 1.238,80 | 1,59 | . | PREPAID | |
| *Shipper:* | SCAN GLOBAL LOGISTICS<br>ITALY S.R.L.<br>VIA CHEMNITZ N. 5/3<br>59100 PRATO, ITALY PO IT | | | *Consignee:* | SGL TRANSGROUP DE MEXICO<br>S.A DE C.V.<br>AV.PASEO DE LAS PALMAS 405,<br>11000 INT 501 Y 504* MX | |
| 01/26/108109 | 19 | 1.024,00 | 4,92 | PLASTIC PARTS FOR AUTO | PREPAID | |
| *Shipper:* | CEVA FREIGHT ITALY S.R.L<br>STRADA LEINI 20<br>10072 TURIN CASELLE ITALY (TO)<br>as agents for Pyramid Lines SG IT | | | *Consignee:* | CEVA A&O MEXICO<br>AV.INSURGENTES SUR 1079,COL.NOCHE<br>BUENA PISO 22 Y 23, BENITO JUAREZ<br>78399 CIUDAD DE MEXICO CMX 03720 MX | |
| 01/26/108148 | 10 | 3.442,41 | 6,79 | heat exchangers hs code 841950 | PREPAID | |
| *Shipper:* | ROHLIG ITALIA S.P.A.<br>VIA ACHILLE GRANDI 12<br>PIOLTELLO MI 20096 Italy<br>IT | | | *Consignee:* | ROHLIG MEXICO, S.A. DE C.V.<br>AV. INSURGENTES SUR 945 PISO 2-B,<br>COL.CIUDAD DE LOS DEPORTES,ALCALDIA<br>BENITO JUAREZ, MX | |

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MANIF MA: 202604022SP

# Cargo Manifest



**01 2026 910533** *Date* **05/02/2026**

*Port of Loading* **GENOVA GE**

*Port of Discharge* **VERACRUZ**

*Vessel* **CHACABUCO** *Vojage* **613W** *on* **30/03/2026** *Date of Arrival* **13/04/2026**

| Container | Type | Number | Seal | Weight Kg |
|---|---|---|---|---|
| **40 HIGH CUBE** | HC40 | MSKU 187659 1 | SC107723 | |

| HBL | Pcs. | Weight | CBM | Nature of Goods | DLY Terms | Collect Freight Charge |
|---|---|---|---|---|---|---|
| 01/26/108198 | 1 | 181,80 | 1,41 | . | PREPAID | |
| *Shipper:* | CIAC SRL IT | | | *Consignee:* | DOONEY & BOURKE MEXICANA S DE RL MX | |
| 01/26/108367 | 1 | 400,00 | 1,28 | . | FOB (EXPORT RUT.) | |
| *Shipper:* | EMANUELE MASCHERPA SPA IT | | | *Consignee:* | FS Hamburgo Global Carga S MX | |
| 01/26/108977 | 1 | 411,12 | 1,00 | DANGEROUS | PREPAID | |
| | 12 | 104,70 | 0,86 | . | | |
| | 1 | 101,30 | 0,57 | . | | |
| *Shipper:* | *IMO* ICRO COATINGS SPA IT | | | *Consignee:* | HELLMANN WORLDWIDE MX | |

***Total N° of HBL:*** **12** ***Total PCS:*** **90.00** ***Total Kg:*** **18,395.40** ***Total CBM:*** **40.96**

MAERSK

# NON-NEGOTIABLE WAYBILL

SCAC MAEU

B/L No. 266156451

Shipper (As principal, where "care of", "c/o", or other variants used.)
SACO COMBIMAR SPA
1, VIA PRIMO MAGGIO
MELZO
20066

Booking No.
266156451

Export references

Svc Contract
299943181

Consignee (Negotiable only if consigned "to order", "to order of" a named Person or "to order of bearer". As principal, where "care of", "c/o", or other variants used.)
INTERTEAM SA DE CV
114-201 COLIMA
06700
MEXICO CITY
Ciudad de Mexico MEXICO

This contract is subject to the terms, conditions and exceptions, including the law & jurisdiction clause and limitation of liability & declared value clauses, of the current Maersk Bill of Lading (available from the Carrier, its agents and at terms.maersk.com/carriage), which are applicable with logical amendments (mutatis mutandis). To the extent necessary to enable the Consignee to sue and to be sued under this contract, the Shipper on entering into this contract does so on his own behalf and as agent for and on behalf of the Consignee and warrants that he has the authority to do so. The shipper shall be entitled to change the Consignee at any time before delivery of the goods provided he gives the Carrier reasonable notice in writing.
Delivery will be made to the Consignee or his authorised agent on production of reasonable proof of identity (and, in the case of an agent, reasonable proof of authority) without production of this waybill. The Carrier shall be under no liability whatsoever for misdelivery unless caused by the Carrier's negligence.

Notify Party (see clause 22)
Same as Consignee

Onward inland routing (Not part of Carriage as defined in clause 1. For account and risk of Merchant)

| Vessel | Voyage No. | Place of Receipt. Applicable only when document used as Multimodal Waybill |
|---|---|---|
| CHACABUCO | 613W | Melzo |
| **Port of Loading** | **Port of Discharge** | **Place of Delivery. Applicable only when document used as Multimodal Transport B/L. (see clause 1)** |
| Genoa | Veracruz | |

## PARTICULARS FURNISHED BY SHIPPER

| Kind of Packages; Description of goods; Marks and Numbers; Container No./Seal No. | Weight | Measurement |
|---|---|---|
| 1 Container Said to Contain 90 PACKAGE<br><br>2 PALLET TRIDIP CF 948,160 2,400 948,160<br>HS 38249950<br>UN3082 CLASS 9<br><br>1 PALLET ROLLERS 259,000<br><br>ALFA LAVAL MEXICO<br>11 PALLET heat exchangers hs code 841950 1838,190<br><br>7 PALLETS TILES. 3640,000 7,380<br><br>AS ADDRESSED<br>17 PALLET BALL BEARING PARTS 1031,680<br>HC 84829900<br>INVOICE JR400678-26 | 18404.276 KGS | |

CERTIFIED
TRUE COPY

Above particulars as declared by Shipper, but without responsibility of or representation by Carrier.

| Freight & Charges | Rate | Unit | Currency | Prepaid | Collect |
|---|---|---|---|---|---|
| | | | | | |

Carrier's Receipt. Total number of containers or packages received by Carrier.
1 container

Place of Issue of Waybill
Genoa

Shipped on Board Date ( Local Time )
2026-03-27

Date Issue of Waybill
2026-03-27

Declared Value Charges (see clause 7.3 of the Maersk Bill of Lading) for Declared Value of US$

Shipped, as far as ascertained by reasonable means of checking, in apparent good order and condition unless otherwise stated herein the total number or quantity of Containers or other packages or units indicated in the box opposite entitled "Carrier's Receipt"

Signed for the Carrier Maersk A/S



Maersk Italia Spa
As Agent(s)

This transport document has one or more numbered pages

5 PALLET 101 CERAMIC TILE 3774,237

2 PALLETS MACHINERY PARTS 1238,799

AS ADDRESSED
19 PALLET PLASTIC PARTS FOR AUTO 1024,000
HC 39269097, 87089997
INVOICES 4400000184,
4400000185

ALFA LAVAL MEXICO
10 PALLET heat exchangers hs code 841950 3442,410

1 PALLET SHOES ACCESSORIES 181,800

1 PALLET Textile materials lubricants 400,000
HS CODE: 34039900

DILL0CORUN 1263,
PAINT, 3, IIIFlash
Point: 27 C (c.c.)
EmS: F-E, #S-EPacked
in: 4 Drums
1A2 104,42 100,00
ltMARKS:
VPACB42604UN 1263
, PAINT, 3, IIIFlash
Point: 30 C (c.c.) -
- Em
1 PALLET AUTOMOTIVE PARTS IMO GOODS: 420,000
UN 1173, ETHYL ACETATE, 3, II
Flash Point: -4 C (c.c.) - EmS: F-E, S-D
Packed in: 4 Drums 1A1 96,00 100,00 lt

| Freight & Charges | Rate | Unit | Currency | Prepaid | Collect |
|---|---|---|---|---|---|
| | | | | | |

12 PACKAGES BLINDING TOKYO SKIRT 104,700

INDUSTRIAL ACROSS
1 PALLET TORNILLO 101,300

MSKU1876591 40 DRY 9'6 90 PACKAGE 18404.276 KGS
Shipper Seal : SC107723
IMO Class: 3
UN Number: 1263
IMO Class: 9
UN Number: 3082
IMO Class: 3
UN Number: 1173
The Merchant(s) warrant and represent that this shipment and/or Goods will comply at all times with European Union, United States and United Nations sanctions and/or export control laws (Sanctions Laws), and that this shipment and/or Goods do not involve, whether directly or indirectly, any entity or person identified, or owned or controlled by any such entity or person identified, on the U.S. Treasury Departments Office of Foreign Asset Control (OFAC) list of Specially Designated Nationals and Blocked Persons, or any other similar list maintained by the European Union, or as promulgated by the United Nations Security Council (Designated Person). If, in the Carriers reasonable opinion, this shipment and/or Goods are in violation of the Carriers policy on Russia [https://www.maersk.com/news/articles/2022/02/24/russia-ukraine-situation-update], Sanctions Laws or involves any Designated Person, the shipment and/or Goods will be returned to the origin at Carriers sole and unfettered discretion, and the Merchant(s) shall indemnify and hold harmless the Carrier, its servants and agents, for any breach of this clause. The Merchant(s) agree that the Carrier may stop the shipment and/or Goods in transit or withhold release of the shipment and/or Goods pending any investigation into compliance with this clause by the Merchant(s).
SHIPPER'S LOAD, STOW, WEIGHT AND COUNT
FREIGHT PREPAID
SD/CY

| Freight & Charges | Rate | Unit | Currency | Prepaid | Collect |
|---|---|---|---|---|---|
| | | | | | |

SACO COMBIMAR S.P.A.
AGENZIA MARITTIMA CONSOLIDATORI N.V.O.C.C.
Sede Operativa e Amministrativa: Via Primo Maggio 1 - 20066 Melzo (MI)
Tel. 02.2743061 www.saco-combimar.it e-mail: info@saco-combimar.it

Messers.
INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F.
Mexico

FATC MA IN: 202604022U7



# INVOICE

**Number 25417 on 02/04/2026**

*P.I./C.F.* *Cd Client* **010347** *Utente* Froio Valentina
*Payment* **Rimessa diretta 30 gg fm**
*Groupage:* **01/26/910533** *Container:* **MSKU 187659 / 1**

| *Item* | *Description* | *Amount* | *As* |
|---|---|---|---|
| 201 | OCEAN FREIGHT | 246,60 | 7X |
| 218 | FUEL SURCHARGE | 43,84 | 7X |
| 266 | COMMISSION | 1.283,37 | 7X |
| ZZZ | STAMP DUTY | 2,35 | 95 |

| *Cd* | *Description* | *Taxable* | *VAT* | *amount* |
|---|---|---|---|---|
| 7X | ESCL ART 7-TER EXTRACEE | 1.573,81 | | 1.573,81 |
| 95 | ESCLUSO ART. 15 | 2,35 | | 2,35 |
| | | **Total Invoice** | **USD** | **1.576,16** |

Bollo assolto in modo virtuale.

# Attached List

**Number 25417 on 02/04/2026**

*Groupage:* **01/26/910533** *Container:* **MSKU 187659 / 1**

| Shipment | on | SE | Vessel | Carrier | Voyage | on | POL | POD | Destination | Terms |
|---|---|---|---|---|---|---|---|---|---|---|
| 01/26/107059 | 20/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 01/26/300516<br>ID-LDV 130563<br>26ITQ1W1TBL41351A4 | | | | | 266 COMMISSION VERACRUZ<br>1,55 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 46,50<br><br>46,50 |
| 01/26/107637 | 25/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 0198/E/202<br>ID-LDV 131812<br>WWA SHIPMENT REFERENCE 01/26/107637ITMIL01<br>26ITQ1W1TBM25119A6 | | | | | 266 COMMISSION VERACRUZ<br>1 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 30,00<br><br>30,00 |
| 01/26/107694 | 25/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO WWA0000994862<br>WWA SHIPMENT REFERENCE 11392026<br>VS RIFERIMENTO C03238832<br>26ITQ1W1TBN13259A3 | | | | | 266 COMMISSION VERACRUZ<br>4,80 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 144,00<br><br>144,00 |
| 01/26/107815 | 26/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 267227000162<br>ID-LDV 132295<br>WWA SHIPMENT REFERENCE 01/26/107815ITMIL01<br>26ITQ1W1TBN13352A7 | | | | | 266 COMMISSION VERACRUZ<br>7,38 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 221,40<br><br>221,40 |
| 01/26/107825 | 26/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 2100599718<br>WWA SHIPMENT REFERENCE 11392594<br>VS RIFERIMENTO OA52-2600199<br>26ITQ1W1TBM39988A3 | | | | | 266 COMMISSION VERACRUZ<br>4,40 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 132,00<br><br>132,00 |
| 01/26/107911 | 26/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | FOB |
| Riferimenti: VS RIFERIMENTO 26020021976<br>ID-LDV 132501<br>26ITQ1W1TBM38938A7 | | | | | 201 OFR - NOLO MARE VERACRUZ<br>4,20 X 45,00 exchange: USD 1,14<br>218 FUEL SURCHARGE VERACRUZ<br>4,20 X 8,00 exchange: USD 1,14<br>266 COMMISSION VERACRUZ<br>4,20 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 189,00<br><br>33,60<br><br>126,00<br><br>348,60 |
| 01/26/107915 | 26/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 216/12601392<br>ID-LDV 132452<br>WWA SHIPMENT REFERENCE 01/26/107915ITMIL01<br>26ITQ1W1TBM30812A7 | | | | | 266 COMMISSION VERACRUZ<br>1,59 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 47,70<br><br>47,70 |
| 01/26/108109 | 27/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 2100704440<br>WWA SHIPMENT REFERENCE 11393510<br>VS RIFERIMENTO OA52-2600204 | | | | | 266 COMMISSION VERACRUZ<br>4,92 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 147,60<br><br>147,60 |
| 01/26/108148 | 27/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO WWA0000996694<br>WWA SHIPMENT REFERENCE 11393657<br>VS RIFERIMENTO C03240558<br>26ITQ1W1TBN13213A0 | | | | | 266 COMMISSION VERACRUZ<br>6,79 X 30,00 exchange: USD 1,14<br>TOTAL: | | | | | 203,70<br><br>203,70 |
| 01/26/108198 | 27/02/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |
| Riferimenti: VS RIFERIMENTO 260227000075<br>ID-LDV 133282<br>WWA SHIPMENT REFERENCE 01/26/108198ITMIL01<br>26ITQ1W1TBN13349A6 | | | | | 266 COMMISSION VERACRUZ<br>1,41 X 45,00 exchange: USD 1,14<br>TOTAL: | | | | | 63,45<br><br>63,45 |
| 01/26/108367 | 02/03/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | FOB |

Bollo assolto in modo virtuale.

# Attached List

**Number 25417 on 02/04/2026**

*Groupage:* **01/26/910533** *Container:* **MSKU 187659 / 1**

Riferimenti: VS RIFERIMENTO FU1005236
ID-LDV 133500
26ITQ1W1TBN12562A2

| | |
|---|---|
| 201 OFR - NOLO MARE VERACRUZ | 57,60 |
| 1,28 X 45,00 exchange: USD 1,14 | |
| 218 FUEL SURCHARGE VERACRUZ | 10,24 |
| 1,28 X 8,00 exchange: USD 1,14 | |
| 266 COMMISSION VERACRUZ | 38,40 |
| 1,28 X 30,00 exchange: USD 1,14 | |
| TOTAL: | 106,24 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 01/26/108977 | 05/03/2026 | SA | CHACABUCO | MAERSK LINE | 613W | 30/03/2026 | GENOVA GE | VERACRUZ | MX | PREPAID |

Riferimenti: VS RIFERIMENTO C2601071029
WWA SHIPMENT REFERENCE 01/26/108977ITMIL01

| | |
|---|---|
| 266 COMMISSION VERACRUZ | 82,62 |
| 2,43 X 34,00 exchange: USD 1,14 | |
| TOTAL: | 82,62 |
| **TOTAL:** | **1.576,16** |

Bollo assolto in modo virtuale.

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107059

Shipper

UBV Ocean & Air S.r.l.
VIA ZARA 5
20096 PIOLTELLO MI IT
Tl 02926831 Fx 0292683330

SACO SHIPPING LINE LTD

Consignee to order of

Sea Cargo Logistics S.A. de C.V.
RFC SCL090414QE0
Calle Leibnitz No. 117, Oficina
401, Col. Anzures Miguel Hidalgo
11590 Ciudad de Mexico, MEX Mexico

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

Notify Partyand address

Sea Cargo Logistics S.A. de C.V.
RFC SCL090414QE0
Calle Leibnitz No. 117, Oficina
401, Col. Anzures Miguel Hidalgo
11590 Ciudad de Mexico, MEX Mexico

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |

| Ocean Vessel | Voy |
|---|---|
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 2 PALLET | TRIDIP CF 948,160 2,400<br>HS 38249950<br>UN3082 CLASS 9<br>"FREIGHT PREPAID" | 948,160 | 1,550 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

FREIGHT AND CHARGES:

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# MULTIMODAL DANGEROUS GOODS FORM

This form may be used as a dangerous goods declaration as it meets the requirements of SOLAS 74, chapter VII, regulation 5; MARPOL 73/78 Annex III, regulation 4

| | |
|---|---|
| 1 Shipper/Consignor/Sender<br>**MACDERMID PERFORMANCE SOLUTIONS ITALIANA SRL**<br>**Via Vigevano, 61**<br>**28069 S. Martino di Trecate - Novara (Italy)** | 2 Transport document number<br>3 Page 1 of 1 page — 4 Shipper's reference<br>5 Freight forwarder's reference<br>7 Carrier (to be completed by the carrier) |
| 6 Consignee<br>**MACDERMID ENTHONE TLALNEPANTLA**<br>**ANTONIO M. RIVERA 26**<br>**54030 TLALNEPANTLA, ESTADO DE MEXICO.** | SHIPPER'S DECLARATION<br>I hereby declare that the contents of this consignment are fully and accurately described below by the Proper Shipping Name, and are classified, packaged, marked and labelled/placarded and are in all respects in proper condition for transport according to the applicable international and national government regulations. |
| 8 This shipment is within the limitations prescribed for: (Delete non-applicable)<br>10 Vessel/flight No. and date: CHACABUCO<br>11 Port/place of loading: GENOA<br>12 Port/place of discharge: VERACRUZ<br>13 Destination | 9 Additional handling information<br>**24 Hour Emergency Incident Number:**<br>**+44 1235 239670**<br>**NCEC The National Chemical Emergency Centre** |

| 14 Shipping marks | *Number and kind of packages; description of goods | Gross mass (Kg) | Net mass (Kg) | Cube (m3) |
|---|---|---|---|---|
| | UN3082 - ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (trizinc bis(orthophosphate)) - CLASS 9 - P.G. III - MARINE POLLUTANT - EMS F-A , S-F - n. 33 canister 3H1/X1.4 - Gross Weight Kg 948,16 - Net Weight kg 868,56 | | | |

| 15 Container identification No./ vehicle registration No. | 16 Seal number(s) | 17 Container/vehicle size & type | 18 Tare mass (Kg) | 19 Total gross mass (including tare) (Kg) |
|---|---|---|---|---|
| msku1876591 | | 40 H C | 79,60 | 948,16 |

| | | |
|---|---|---|
| **CONTAINER/VEHICLE PACKING CERTIFICATE**<br>I hereby declare that the goods described above have been packed/loaded into the container/vehicle identified above in accordance whit the applicable provisions.+<br>MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING | 21 RECEIVING ORGANIZATION RECEIPT<br>Received the above number of packages/containers/trailers in apparent good order and condition unless stated hereon. RECEIVING ORGANIZATION REMARKS: SACO COMBIMAR S.p.A. Via Primo Maggio n° 1 20066 MELZO (MI) C.F./P.IVA 05444010960 REA MI 1821952 | |
| 20 Name of company: SACO COMBIMAR S.p.A. Via Primo Maggio n° 1 20066 MELZO (MI) C.F./P.IVA 05444010960 - REA MI 1821952 | Haulier's name | 22 Name of company (OF SHIPPER PREPARING THIS NOTE): MacDermid Performance Solutions Italiana S.r.l. |
| Name /status of declarant | Vehicle reg. no | Name/status of declarant: A. D'Auria-Responsabile Sicurezza |
| Place and date | Signature and date | Place and date: San Martino di Trecate, 12/02/2026 |
| Signature of declarant | DRIVER'S SIGNATURE | Signature of declarant |

* DANGEROUS GOODS:
You must specify: Proper Shipping Name, hazard class, UN No., packing group, (where assigned) marine pollutant and observe the mandatory requirements under applicable national and international governmental regulations. For the purposes of IMDG Code see 5.4.1.1..

\+ For the purposes of the IMDG Code, see 5.4.2..

# MULTIMODAL DANGEROUS GOODS FORM

This form may be used as a dangerous goods declaration as it meets the requirements of SOLAS 74, chapter VII, regulation 5; MARPOL 73/78 Annex III, regulation 4

| | |
|---|---|
| 1 Shipper/Consignor/Sender<br><br>**MACDERMID PERFORMANCE SOLUTIONS ITALIANA SRL**<br>**Via Vigevano, 61**<br>**28069 S. Martino di Trecate - Novara (Italy)** | 2 Transport document number<br>3 Page 1 of 1 page — 4 Shipper's reference<br>5 Freight forwarder's reference<br>7 Carrier (to be completed by the carrier) |
| 6 Consignee<br><br>**MACDERMID ENTHONE TLALNEPANTLA**<br>**ANTONIO M. RIVERA 26**<br>**54030 TLALNEPANTLA, ESTADO DE MEXICO.** | SHIPPER'S DECLARATION<br>I hereby declare that the contents of this consignment are fully and accurately described below by the Proper Shipping Name, and are classified, packaged, marked and labelled/placarded and are in all respects in proper condition for transport according to the applicable international and national government regulations. |
| 8 This shipment is within the limitations prescribed for: (Delete non-applicable)<br><br>10 Vessel/flight No. and date — 11 Port/place of loading<br>12 Port/place of discharge — 13 Destination | 9 Additional handling information<br><br>**24 Hour Emergency Incident Number:**<br><br>**+44 1235 239670**<br>**NCEC The National Chemical Emergency Centre** |

| 14 Shipping marks | *Number and kind of packages; description of goods | Gross mass (Kg) | Net mass (Kg) | Cube (m3) |
|---|---|---|---|---|
| | UN3082 - ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (trizinc bis(orthophosphate)) - CLASS 9 - P.G. III - MARINE POLLUTANT - EMS F-A , S-F - n. 33 canister 3H1/X1.4 - Gross Weight Kg 948,16 - Net Weight kg 868,56 | | | |

| 15 Container identification No./ vehicle registration No. | 16 Seal number(s) | 17 Container/vehicle size & type | 18 Tare mass (Kg) | 19 Total gross mass (including tare) (Kg) |
|---|---|---|---|---|
| | | | 79,60 | 948,16 |

| | | |
|---|---|---|
| **CONTAINER/VEHICLE PACKING CERTIFICATE**<br>I hereby declare that the goods described above have been packed/loaded into the container/vehicle identified above in accordance whit the applicable provisions.+<br>MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING | 21 RECEIVING ORGANIZATION RECEIPT<br>Received the above number of packages/containers/trailers in apparent good order and condition, unless stated hereon: RECEIVING ORGANIZATION REMARKS: | |
| 20 Name of company | Haulier's name | 22 Name of company (OF SHIPPER PREPARING THIS NOTE)<br>MacDermid Performance Solutions Italiana S.r.l. |
| Name /status of declarant | Vehicle reg. no | Name/status of declarant<br>A. D'Auria-Responsabile Sicurezza |
| Place and date | Signature and date | Place and date<br>San Martino di Trecate, 12/02/2026 |
| Signature of declarant | DRIVER'S SIGNATURE | Signature of declarant |

* DANGEROUS GOODS:
You must specify: Proper Shipping Name, hazard class, UN No., packing group, (where assigned) marine pollutant and observe the mandatory requirements under applicable national and international governmental regulations. For the purposes of IMDG Code see 5.4.1.1..

\+ For the purposes of the IMDG Code, see 5.4.2..

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878 - Italy

# SAFETY DATA SHEET

TRIDIP CF

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

**Product name** : TRIDIP CF

**UFI** : JK60-89CD-D003-8CPX

**Product code** : 190061

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

| Identified uses |
| --- |
| Surface Treatment.<br>Industrial applications. |

### 1.3 Details of the supplier of the safety data sheet

**e-mail address of person responsible for this SDS** : sdsuk@macdermid.com; regulatory.de@macdermid.com

**Supplier** :

MacDermid Performance Solutions Italiana S.r.L.
Via Vigevano, 61
28069 San Martino di Trecate (NO)
Italy

-

HSO Herbert Schmidt GmbH & Co. KG
Schorberger Str. 18 - 26
42699 Solingen
Germany

**Information contact** :

Tel.: +39 0321 789630
infosw@macdermidenthone.com

-

HSO Tel: (+49) 212 65850

### 1.4 Emergency telephone number

**National advisory body/Poison Centre**

**Telephone number** :

Centro Antiveleni di Bergamo (+39) 800.88.33.00
Centro Antiveleni di Firenze (+39) 055.794.7819
Centri Antiveleni di Foggia (+39) 800.183.459
Centro Antiveleni di Milano (+39) 02. 66.1010.29
Centro Antiveleni di Napoli (+39) 081.545.3333
Centro Antiveleni di Pavia (+39) 0382. 24.444
Centro Antiveleni di Roma (+39) 06.4997.8000; 06.305.4343; 06. 6859.3726
Centro Antiveleni di Verona (+39) 800.011.858

**Supplier**

**Telephone number** : Carechem24: (+39) 800 699 792; (+44) 1235 239 670 (across Europe)
**Hours of operation** : 24/7

# SECTION 2: Hazards identification

## 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

## 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.
P264 - Wash thoroughly after handling.

**Response** : P391 - Collect spillage.

**Storage** :

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, chromium(3+) salt (1:1) dichromium tris(hydrogen phosphate)
(Chloro-) methyl- isothiazolinone (3:1)

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Special packaging requirements**

## 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, chromium (3+) salt (1:1) | CAS: 685853-81-0 | ≥10 - ≤25 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 | - | [1] |
| trizinc bis(orthophosphate) | EC: 231-944-3<br>CAS: 7779-90-0<br>Index: 030-011-00-6 | ≤10 | Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | M [Acute] = 1<br>M [Chronic] = 1 | [1] |
| dichromium tris(hydrogen phosphate) | EC: 261-643-2<br>CAS: 59178-46-0 | ≤2.8 | Acute Tox. 4, H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 | ATE [Oral] = 500 mg/kg | [1] |
| phosphoric acid | REACH #: 01-2119485924-24<br>EC: 231-633-2<br>CAS: 7664-38-2<br>Index: 015-011-00-6 | ≤1.5 | Met. Corr. 1, H290<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318 | Met. Corr. 1, H290: C ≥ 20%<br>Skin Corr. 1B, H314: C ≥ 25%<br>Skin Irrit. 2, H315: 10% ≤ C < 25%<br>Eye Dam. 1, H318: C ≥ 25%<br>Eye Irrit. 2, H319: 10% ≤ C < 25% | [1] [2] |
| (Chloro-) methyl-isothiazolinone (3:1) | REACH #: 01-2120764691-48<br>EC: 611-341-5<br>CAS: 55965-84-9<br>Index: 613-167-00-5 | <0.001 | Acute Tox. 3, H301<br>Acute Tox. 2, H310<br>Acute Tox. 2, H330<br>Skin Corr. 1C, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410<br>EUH071<br><br>**See Section 16 for the full text of the H statements declared above.** | ATE [Oral] = 64 mg/kg<br>ATE [Dermal] = 142.1 mg/kg<br>ATE [Inhalation (dusts and mists)] = 0.171 mg/l<br>Skin Corr. 1C, H314: C ≥ 0.6%<br>Skin Irrit. 2, H315: 0.06% ≤ C < 0.6%<br>Eye Dam. 1, H318: C ≥ 0.6%<br>Eye Irrit. 2, H319: 0.06% ≤ C < 0.6%<br>Skin Sens. 1, H317: C ≥ 0.0015%<br>M [Acute] = 100<br>M [Chronic] = 100<br>EUH071: C ≥ 0.6% | [1] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

## SECTION 3: Composition/information on ingredients

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

### 4.2 Most important symptoms and effects, both acute and delayed

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Non-combustible.
Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
metal oxide/oxides

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

## SECTION 6: Accidental release measures

**6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

The temperature range listed here will maintain the quality of the material during its specified shelf-life.
Store between the following temperatures: 5 to 35°C (41 to 95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

**Recommendations** : No specific measures identified.

**Industrial sector specific solutions** : No specific measures identified.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

### 8.1 Control parameters

**Occupational exposure limits**

| Product/ingredient name | Exposure limit values |
|---|---|
| phosphoric acid | **Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).**<br>8 hours: 1 mg/m³ 8 hours.<br>Short Term: 2 mg/m³ 15 minutes. |

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

# SECTION 8: Exposure controls/personal protection

## DNELs/DMELs

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|---|---|---|---|---|---|
| trizinc bis(orthophosphate) | DNEL | Long term Oral | 0.83 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 2.5 mg/m³ | General population | Systemic |
| | DNEL | Long term Inhalation | 5 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 83 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 83 mg/kg bw/day | Workers | Systemic |
| phosphoric acid | DNEL | Long term Oral | 0.1 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.36 mg/m³ | General population | Local |
| | DNEL | Long term Inhalation | 1 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 2 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 4.57 mg/m³ | General population | Systemic |
| | DNEL | Long term Inhalation | 10.7 mg/m³ | Workers | Systemic |
| (Chloro-) methyl- isothiazolinone (3:1) | DNEL | Long term Inhalation | 0.02 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.04 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 0.02 mg/m³ | General population | Local |
| | DNEL | Long term Inhalation | 0.02 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.04 mg/m³ | General population | Local |
| | DNEL | Short term Inhalation | 0.04 mg/m³ | Workers | Local |
| | DNEL | Long term Oral | 0.09 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Oral | 0.11 mg/kg bw/day | General population | Systemic |

## PNECs

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|---|---|---|---|
| (Chloro-) methyl- isothiazolinone (3:1) | Fresh water | 3.39 µg/l | - |
| | Marine water | 3.39 µg/l | - |
| | Sewage Treatment Plant | 0.23 mg/l | - |
| | Fresh water sediment | 0.027 mg/kg dwt | - |
| | Marine water sediment | 0.027 mg/kg dwt | - |
| | Soil | 0.01 mg/kg dwt | - |

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

## SECTION 8: Exposure controls/personal protection

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If inhalation hazards exist, a full-face respirator may be required instead. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical splash goggles. Use eye protection according to EN 166.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Recommendations: In splash contact: 1 - 4 hours (breakthrough time): polyvinyl chloride (PVC), neoprene. Long term exposure: > 8 hours (breakthrough time): butyl rubber. (thickness: 0.5 mm) Wear suitable gloves tested to EN374.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
In case of inadequate ventilation wear respiratory protection: multi-gas/vapour filter (inorganic gases/vapours filter (Type B), acid gas filter (Type E))

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Colour** : Green.

**Odour** : Bland.

**Odour threshold** : There are no data available on the mixture itself.

**Melting point/freezing point** : Testing not technically possible.

**Initial boiling point and boiling range** : 110°C (230°F)

**Flammability** : There are no data available on the mixture itself.

**Lower and upper explosion limit** : There are no data available on the mixture itself.

**Flash point** : Not available.

## SECTION 9: Physical and chemical properties

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : 210°C

**pH** : 2 to 4

**Viscosity** : There are no data available on the mixture itself.

**Solubility(ies)** :

Not available.

**Solubility in water** : There are no data available on the mixture itself.

**Miscible with water** : Yes.

**Partition coefficient: n-octanol/water** : Not applicable.

**Vapour pressure** :

| | Vapour Pressure at 20˚C | | | Vapour pressure at 50˚C | | |
|---|---|---|---|---|---|---|
| **Ingredient name** | **mm Hg** | **kPa** | **Method** | **mm Hg** | **kPa** | **Method** |
| water | 23.8 | 3.2 | | | | |

**Evaporation rate** : There are no data available on the mixture itself.

**Relative density** : There are no data available on the mixture itself.

**Density** : 1.27 to 1.36 g/cm³ [20°C (68°F)]

**Vapour density** : There are no data available on the mixture itself.

**Explosive properties** : There are no data available on the mixture itself.

**Oxidising properties** : There are no data available on the mixture itself.

**Particle characteristics**

**Median particle size** : Not applicable.

### 9.2 Other information

**SAPT** : Not relevant/applicable due to nature of the product.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : Extremely reactive or incompatible with the following materials: alkalis.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : No specific data.

**10.5 Incompatible materials** : No specific data.

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# SECTION 11: Toxicological information

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| phosphoric acid | LD50 Oral | Rat | 1.25 g/kg | - |
| (Chloro-) methyl-isothiazolinone (3:1) | LC50 Inhalation Vapour | Rat | 0.171 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 142.1 mg/kg | - |
| | LD50 Oral | Rat | 53 mg/kg | - |
| | LD50 Oral | Rat | 64 mg/kg | - |

**Conclusion/Summary** : Not tested

### Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| TRIDIP CF | 19817.7 | N/A | N/A | N/A | N/A |
| dichromium tris(hydrogen phosphate) | 500 | N/A | N/A | N/A | N/A |
| (Chloro-) methyl- isothiazolinone (3:1) | 64 | 142.1 | N/A | N/A | 0.171 |

### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| (Chloro-) methyl-isothiazolinone (3:1) | Skin - Severe irritant | Human | - | 0.01 % | - |

**Conclusion/Summary**

**Skin** : Not tested

**Eyes** : Not tested

**Respiratory** : Not tested

### Sensitisation

**Conclusion/Summary**

**Skin** : Not tested

**Respiratory** : Not tested

### Mutagenicity

**Conclusion/Summary** : Not tested

### Carcinogenicity

**Conclusion/Summary** : Not tested

### Reproductive toxicity

**Conclusion/Summary** : Not tested

### Teratogenicity

**Conclusion/Summary** : Not tested

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not tested

### Potential acute health effects

## SECTION 11: Toxicological information

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

**Conclusion/Summary** : Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

Not available.

#### 11.2.2 Other information

No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| trizinc bis(orthophosphate) phosphoric acid | Acute LC50 90 µg/l Fresh water<br>Acute EC50 105 ppm Fresh water<br>Acute LC50 60 ppm Fresh water | Fish - *Oncorhynchus mykiss*<br>Daphnia - *Daphnia magna*<br>Fish - *Lepomis macrochirus* | 96 hours<br>48 hours<br>96 hours |

**Conclusion/Summary** : Ecological testing has not been conducted on this product.

### 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

## SECTION 12: Ecological information

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| TRIDIP CF<br>(Chloro-) methyl-isothiazolinone (3:1) | -<br>- | -<br>- | Not readily<br>Readily |

### 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| trizinc bis(orthophosphate) | - | 60960 | High |

### 12.4 Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Not available.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

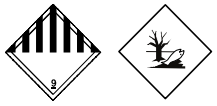
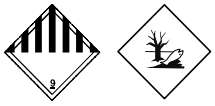
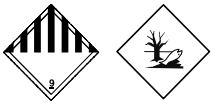
**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

| | ADR/RID | IMDG | IATA |
|---|---|---|---|
| **14.1 UN number or ID number** | UN3082 | UN3082 | UN3082 |
| **14.2 UN proper shipping name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (trizinc bis (orthophosphate)) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (trizinc bis (orthophosphate)) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (trizinc bis (orthophosphate)) |
| **14.3 Transport hazard class(es)** | 9  | 9  | 9  |
| **14.4 Packing group** | III | III | III |
| **14.5 Environmental hazards** | Yes. | Yes. | Yes. |

**Additional information**

**ADR/RID** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
**Tunnel code** -

**IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
**Emergency schedules** F-A, S-F

**IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Maritime transport in bulk according to IMO instruments** : Not applicable - not transported in bulk

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

## SECTION 15: Regulatory information

### Other EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

### Ozone depleting substances (1005/2009/EU)

Not listed.

### Seveso Directive - Reporting thresholds

#### Danger criteria

| Category | Notification and MAPP threshold | Safety report threshold |
|---|---|---|
| E2 | 200 tonne | 500 tonne |

**15.2 Chemical safety assessment** : Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification | Justification |
|---|---|
| Skin Irrit. 2, H315 | Calculation method |
| Eye Irrit. 2, H319 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |
| Aquatic Chronic 2, H411 | Calculation method |

### Full text of abbreviated H statements

| | |
|---|---|
| H290 | May be corrosive to metals. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H310 | Fatal in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| EUH071 | Corrosive to the respiratory tract. |

## SECTION 16: Other information

**Full text of classifications [CLP/GHS]**

| | |
|---|---|
| Acute Tox. 2 | ACUTE TOXICITY - Category 2 |
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Acute 1 | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Met. Corr. 1 | CORROSIVE TO METALS - Category 1 |
| Skin Corr. 1B | SKIN CORROSION/IRRITATION - Category 1B |
| Skin Corr. 1C | SKIN CORROSION/IRRITATION - Category 1C |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |

**Date of printing** : 1/7/2025

**Date of issue/ Date of revision** : 1/7/2025

**Date of previous issue** : 9/13/2024

**Version** : 1.03

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

MacDermid Enthone SDS CLP Europe (transfer)

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107637

Shipper

Scan Global Logistics Italy S.r.l.
Via Chemnitz n. 5/3, 59100 Prato, Italy

SACO SHIPPING LINE LTD

Consignee to order of

SGL Transgroup de México S.A. de C.V.
Av. Paseo de las Palmas 405, int 501 y 504
Col. Lomas de Chapultepec III Sección Alc.
Miguel Hidalgo, CDMX, C.P. 11000.
TAX ID. STM2012087C3
CTC: Sinhue Bocanegra /
mex.oceanimport@scangl.com

Notify Partyand address

SAME AS CONSIGNEE

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 1 PALLET | ROLLERS<br>"FREIGHT PREPAID" | 259,000 | 0,210 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107694

Shipper

ROHLIG ITALIA S.P.A.
VIA ACHILLE GRANDI 12
PIOLTELLO MI 20096 Italy

SACO SHIPPING LINE LTD

Consignee to order of

ROHLIG MEXICO, S.A. DE C.V.
AV. INSURGENTES SUR 945 PISO 2-B,
COL.CIUDAD DE LOS DEPORTES,ALCALDIA
BENITO JUAREZ,
CIUDAD DE MEXICO CMX 03710 Mexico
RFC+OLM140214Z7

Notify Partyand address

SAME AS CNEE

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | | ORIGIN | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723<br>ALFA LAVAL MEXICO | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE<br>11 PALLET | heat exchangers hs code 841950<br>"PREPAID" | 1838,190 | 4,800 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

PHONE NUMBER :

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107815

Shipper

NIPPON EXPRESS ITALIA SPA PAINA
Via Valsorda SNC
22044 Cremnago di Inverigo CO IT
Ph:+39 (0) 31 6949511

SACO SHIPPING LINE LTD

Consignee to order of

BONANZA LOGISTICS SA DE CV
CORDOBA 82 COLONIA ROMA
06700 CUAUHTEMOC, CIAUDAD DE MEXICO MX
PH.: 00525555146097

Notify Partyand address

SAME AS CONSIGNEE

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 7 PALLETS | TILES.<br>"FREIGHT PREPAID" | 3640,000 | 7,380 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107825

Shipper

CEVA FREIGHT ITALY S.R.L
STRADA LEINI 20
10072 TURIN CASELLE ITALY (TO)
as agents for Pyramid Lines SG

Consignee to order of

CEVA A&O MEXICO
AV.INSURGENTES SUR 1079,COL.NOCHE
BUENA PISO 22 Y 23, BENITO JUAREZ
CIUDAD DE MEXICO CMX 03720
as agents for Pyramid Lines SG

Notify Partyand address

SAME AS CONSIGNEE

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723<br>AS ADDRESSED | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE<br>17 PALLET | BALL BEARING PARTS<br>HC 84829900<br>INVOICE JR400678-26<br>"FREIGHT PREPAID" | 1031,680 | 4,400 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

PHONE NUMBER :

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107911

Shipper

XPD GLOBAL ITALY SPA
VIA MERCALLI 14
20122 MILANO

SACO SHIPPING LINE LTD

Consignee to order of

EUROPARTNERS MEXICO SA DE CV
AVENIDA REVOLUCION #649
COLONIA JARDIN ESPANOL
MONTERREY, NL, MEXICO. CP 64820
RFC: EME020824U4A

Notify Partyand address

EUROPARTNERS MEXICO SA DE CV
AVENIDA REVOLUCION #649
COLONIA JARDIN ESPANOL
MONTERREY, NL, MEXICO. CP 64820
RFC: EME020824U4A

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT COLLECT | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 5 PALLET | 101 CERAMIC TILE<br>"FREIGHT COLLECT" | 3774,237 | 4,200 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy
As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/107915

Shipper

Scan Global Logistics Italy S.r.l.
Via Chemnitz n. 5/3, 59100 Prato, Italy

SACO SHIPPING LINE LTD

Consignee to order of

SGL Transgroup de México S.A. de C.V.
Av. Paseo de las Palmas 405, int 501 y 504
Col. Lomas de Chapultepec III Sección Alc.
Miguel Hidalgo, CDMX, C.P. 11000.
TAX ID. STM2012087C3
CTC: Sinhue Bocanegra /
mex.oceanimport@scangl.com

Notify Partyand address

SAME AS CONSIGNEE

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 2 PALLETS | MACHINERY PARTS<br>"FREIGHT PREPAID" | 1238,799 | 1,590 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/108109

Shipper

CEVA FREIGHT ITALY S.R.L
STRADA LEINI 20
10072 TURIN CASELLE ITALY (TO)
as agents for Pyramid Lines SG

Consignee to order of

CEVA A&O MEXICO
AV.INSURGENTES SUR 1079,COL.NOCHE
BUENA PISO 22 Y 23, BENITO JUAREZ
CIUDAD DE MEXICO CMX 03720
as agents for Pyramid Lines SG

Notify Partyand address

SAME AS CONSIGNEE

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723<br>AS ADDRESSED | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE<br>19 PALLET | PLASTIC PARTS FOR AUTO<br>HC 39269097, 87089997<br>INVOICES 4400000184,<br>4400000185<br>"FREIGHT PREPAID" | 1024,000 | 4,920 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

PHONE NUMBER :

FREIGHT AND CHARGES:

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

**LCL/LCL**

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/108148

Shipper

ROHLIG ITALIA S.P.A.
VIA ACHILLE GRANDI 12
PIOLTELLO MI 20096 Italy

Consignee to order of

ROHLIG MEXICO, S.A. DE C.V.
AV. INSURGENTES SUR 945 PISO 2-B,
COL.CIUDAD DE LOS DEPORTES,ALCALDIA
BENITO JUAREZ,
CIUDAD DE MEXICO CMX 03710 Mexico
RFC+OLM140214Z7

Notify Partyand address

SAME AS CNEE

SACO SHIPPING LINE LTD

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723<br>ALFA LAVAL MEXICO | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE<br>10 PALLET | heat exchangers hs code 841950<br>"FREIGHT PREPAID" | 3442,410 | 6,790 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

PHONE NUMBER :

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/108198

Shipper

CIAC SRL
VIA DI VITTORIO 18
20072 PIEVE EMANUELE MI IT
Ph:02/552106994

Consignee to order of

DOONEY & BOURKE MEXICANA S DE RL
DE CV. SANTA LUCIA NO.101
COLONIA FRACCIONAMIENTO INDUSTRIAL LA POMPA
C.P.
37490 LEON, GUANAJUATO, MEXICO
ATTN MARIA ANTONIA RUIZ MANRIQUEZ *

Notify Partyand address

same as cnee

SACO SHIPPING LINE LTD

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT PREPAID | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 1 PALLET | SHOES ACCESSORIES<br>* TAX ID D&B0001275AA<br>PH +524777635721 EXT 6<br>"FREIGHT PREPAID" | 181,800 | 1,410 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy
As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/108367

Shipper

Aprile Spa
Via della Liberazione 30/32
Peschiera Borromeo 20068 Milano, MI
Italy IT01324870995
Francesco Cocchi T:+39 0297379633
E: francesco.cocchi@aprilenet.com

SACO SHIPPING LINE LTD

Consignee to order of

FS Hamburgo Global Carga S.A.P.I.
de C.V. Av. Insurgentes Sur 863
Piso 7, Ofna. 718, Col. Nápoles
CIUDAD DE MEXICO BAM2106075G9
import department
E:info_mex@5star-global.com

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

Notify Partyand address

SAME AS CNEE

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT COLLECT | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE | | | |
| | 1 PALLET | Textile materials lubricants<br>HS CODE: 34039900<br>"FREIGHT COLLECT" | 400,000 | 1,280 |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

FREIGHT AND CHARGES:

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy

As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

# EXPRESS BILL OF LADING

(NOT NEGOTIABLE UNLESS CONSIGNED "TO ORDER")

B/L No. 01/26/108977

Shipper

HELLMANN WORLDWIDE LOGISTICS SPA
AS AGENT OF PELORUS SHIPPING LINE LIMITED
VIA EUGENIO MONTALE 18
SEGRATE ITALY 20090
EORI IT05167790962

SACO SHIPPING LINE LTD

Consignee to order of

HELLMANN WORLDWIDE LOGISTICS S.A
AS AGENT OF PELORUS SHIPPING LINE LIMITED
CALLE 28 EXT 90 BODEGA A
VENUSTIANO CARRANZA CMX MEXICO 15700
RFC HWL010328I30

Notify Partyand address

HELLMANN WORLDWIDE LOGISTICS S.A
AS AGENT OF PELORUS SHIPPING LINE LIMITED
CALLE 28 EXT 90 BODEGA A
VENUSTIANO CARRANZA CMX MEXICO 15700
RFC HWL010328I30

**SACO SHIPPING LINE LIMITED**
44, Kroytser
PANORAMA Residence
Block A, Flat 01
3120 Limassol CYPRUS
FMC Organization No. 025875

***Copy***

| Place of Receipt | Port of Loading |
|---|---|
| Milano | GENOVA GE |
| **Ocean Vessel** | **Voy** |
| CHACABUCO | 613W |

| Port of discharge | Place of Delivery | Freight payable | Number of original Bills of Lading |
|---|---|---|---|
| VERACRUZ | VERACRUZ | FREIGHT COLLECT | 0 (NONE) |

| Marks and Numbers | Quantity of Goods | Description of goods (said to contain) | Gross weight,kg | Measurement, m3 |
|---|---|---|---|---|
| MSKU 187659/1<br>LCL/LCL<br>SEAL SC107723 | GOODS STOWED INTO CNTR 1X 40 HIGH CUBE<br>***AS PER ATTACHED LIST** | | | |

All particulars above declared by Merchant

Loaded into container(s)

MSKU 187659 / 1 SEAL SC107723

**LCL/LCL**

For deliveryof cargo please apply to

INTERTEAM,S.A. DE C.V.
RFC INT961206ES7
COLIMA 114-201 COLONIA ROMA
06700 MEXICO D.F. MX

FREIGHT AND CHARGES:

RECEIVED for shipment the above mentioned Goods in apparent good order and condition as far as could be ascertained by exercising reasonable means of cheking or as stated above. The Carrier in accordance with the provisions contained on this side and on the reverse side of this document;
a) undertakes to perform or to procure the performance of the entire transport from the place at which the Goods are taken in charge to the place designated for delivery in this document, and
b) assumes liability as prescribed in this document for such transport
**One of the Bills of Lading to be surrendered duly endorsed in exchange for the Goods or delivery order.**
In WITNESS where of three (3) original Bills of Landing have been signed , if not otherwise started above, one of which being accomplished the other(s) to be void

Declared Value of the Goods (see clause 12)
US$
Ad valorem freight paid:

Place and date of issue

MELZO 30/03/2026

Signed on behalf of the Carrier
SACO SHIPPING LINE LIMITED

**SACO COMBIMAR SPA**
Via 1° Maggio, 1
20066 - Melzo (Milano) - Italy
As agent only for SACO SHIPPING LINE LIMITED LIMASSOL

**Note:**

The Merchant's attention is called to the fact that according to Clauses 11 to 13 of this Bill of Lading, the liability of the Carrier is, in most cases, limited in respect of loss of or damage to the goods and delay

Shipped on board above vessel

A Member of WorldWideAlliance®

# COMBINED TRANSPORT BILL OF LADING

**1. Applicability**
Notwithstanding the heading “Combined Transport”, the provisions set out and referred to in this Bill of Lading shall also apply, if the transport as described in this Bill of Lading is performed by one mode of transport only.
**2. Definitions**
“Carrier” means the party on whose behalf this Bill of Lading has been signed. “Merchant” includes the Shipper, the Receiver, the Consignor, and the Consignee, the holder of this Bill of Lading and the owner of the Goods or person entitled to the possession of the Goods and the servants and agents and principals of any of these, all of whom shall be jointly and severally liable to the Carrier for the payment of Freight, and for the performance of the obligations of any of them under this Bill of Lading. “Goods” means the cargo received from the Shipper and includes a Container not supplied by the Carrier.
“Container” includes a container, trailer, transportable tank, flat rack, pallet or any other article used to consolidate Goods or any equipment thereof or connected thereto. “Carriage” means the whole of the operations and the services undertaken by the Carrier in respect of the Goods. “Combined Transport” arises when the Place of Acceptance and/or the Place of Delivery are set out on page two overleaf in the relevant margins.
**3. Carrier's Tariff**
The terms of the Carrier's applicable Tariff at the date of shipment are incorporated herein. Copies of the relevant provisions of the applicable Tariff are available from the Carrier or its agents. In the case of inconsistency between this Bill of Lading and the applicable Tariff, this Bill of Lading shall prevail.
**4. Time Bar**
All liability, whatsoever, of the Carrier shall cease unless suit is brought within 9 months after delivery of the Goods or the date when the Goods should have been delivered.
**5. Law and Jurisdiction**
Except as otherwise provided specifically herein, disputes arising under this Bill of Lad ng or in connection therewith shall be determined exclusively by the High Court of Justice in London and in accordance with the English law. Any actions against the Merchant may, at the Carrier's sole option, also be brought in the countries of the Port of Loading, Port of Discharge, Place of Delivery or in any jurisdiction where the Merchant has a place of business.
**6. Subcontracting**
The Carrier shall be entitled to subcontract the whole or any part of the contract of Carriage, loading, unloading, star ng, warehousing, handling including, but not limited to all duties usually undertaken by a Carrier.
**7. Methods and Routes of Transportation**
The Carrier may at any time and without notice to the Merchant:
(a) use any means of transport (water, land and/or air) or storage whatsoever;
(b) transship or carry the Goods on another vessel or conveyance or by any other means of transport than that named on page two overleaf;
(c) proceed by any route in its sole and absolute discretion and whether the nearest, most direct, customary or advertised route at any speed, and proceed to or stay at any place whatsoever once or more often and in any order or omit calling at any port, whether scheduled or not;
(d) terminate the transportation and discharge Goods or Containers or other packages and devan and/or store contents at any place whatsoever, ashore or afloat, in the open or covered, and require the Merchant to take delivery and, upon failure to do so, warehouse the Goods at risk and expense of Merchant and Goods;
(e) comply with any orders, directions or recommendations given by any government or authority or by any person or body acting or purporting to act with the authority of any government or authority or having under the terms of the insurance on the Vessel or other conveyance employed by the Carrier the right to give such orders, directions or recommendations;
(f) take any other steps or precautions as may appear reasonable to the Carrier under the circumstances.

The liberties set out in Clause 7(a) through 7(f) may be invoked for any purpose whatsoever even if not connected with the carriage covered by this Bill of Lading, and any action taken or omitted to be taken, and any delay arising therefrom, shall be deemed to be within the contractual and contemplated carriage and not be an unreasonable deviation. Notwithstanding, the Carrier shall be entitled to full Charges and any additional freight, storage and all other expenses incurred by or on behalf of Carrier, all of which shall be due and owing from Merchant, and the Carrier shall have a lien on the Goods for same.
**8. Optional Stowage**
(1) Goods may be stowed by the Carrier by means of and in, for example, Containers, trailers, transportable tanks, flats, pallets, or similar articles of transport used to consolidate Goods.
(2) Containers, trailers, transportable tanks and covered and uncovered flats, whether stowed by the Carrier or received by it in a stowed condition from the Merchant, may be carried on or under deck without notice to the Merchant and if so carried, the legislation referred to in Clause 11 below shall apply notwithstanding carriage on deck and the Goods and/or Containers shall contribute to General Average as if carried under deck. Notwithstanding anything contained in this Clause the Carrier shall be under no liability whatsoever for loss, damage or delay howsoever occurring to Goods stated on page two overleaf hereof to be carried on deck or so carried or to live animals whether or not carried on or under deck.
**9. Hindrances affecting performance**
(1) The Carrier shall use reasonable endeavours to complete the transport and to deliver the Goods al the place designated for delivery or as near thereto as under the prevailing circumstances possible.
(2) If at any time the performance of the contract as evidenced by this Bill of Lading is or will be affected by any hindrance, risk, delay, difficulty or disadvantage of whatsoever kind the Carrier (whether or not the transport is commenced) may at any time at its sole discretion and without notice to the Merchant:
(a) abandon the Carriage of the Goods and where reasonably possible place the Goods or any part of them at the Merchant's disposal at any place which the Carrier may deem safe and convenient, whereupon the responsibility of the Carrier in respect of such Goods shall cease, or sell the Goods;
(b) without prejudice to the Carrier's right to abandon the Carriage under Sub-Clause (a) above, continue the Carriage.

(3) In any event the Carrier shall be entitled to full freight for Goods received for transportation and additional compensation for extra costs resulting from the circumstances referred to above. The Carrier exercising the liberties under this Clause shall not be under any obligation to take any particular measure and shall not be liable for any loss, delay or damage howsoever arising from any action or lack of action under this Clause.
(4) The liability of the Carrier in respect of the Goods shall cease on the delivery or other disposition of the Goods in accordance with the orders or recommendations given by any government or authority or any person acting or purporting to act as or on behalf of such government or authority.
**10. Option of Inspection**
The Carrier may at its option open any Container or package to inspect the contents. If it appears that any part thereof cannot safely or properly be carried, either at all or without incurring additional expenses, the Carrier may abandon the transportation and/or take any measures and/or incur any reasonable additional expenses to continue carriage or store Goods, which storage shall be deemed to constitute due delivery hereunder. The Merchant shall indemnify the Carrier against any reasonable additional Charges so incurred, unless due solely to the Carrier's fault.

**11. Basic Liability**
(1) The Carrier shall be liable for loss of or damage to the Goods occurring between the time when il receives the Goods into its charge and the time of delivery. In case of a multimodal transport and if the place of damage or loss of the Goods is known, the responsibility of the Carrier is determined by the law which applies to this leg of carriage.
(2) The Carrier shall, however, be relieved of liability for any loss or damage if such loss or damage arose or resulted from:
(a) act or neglect of the Merchant.
(b) compliance with the instructions of the person(s) entitled to give them.
(c) the lack of, or defective conditions of packing in the case of Goods which, by their nature, are liable to wastage or lo be damaged when not packed or when not properly packed.
(d) handling, loading, stowage or unloading of the Goods by or on behalf of the Merchant.
(e) inherent vice of the Goods.
(f) insufficiency or inadequacy of marks or numbers on the Goods, covering, or unit loads.
(g) strikes or lock-outs or stoppages or restraints of labour from whatever cause whether partial or general.
(h) nuclear incident.
(i) act, neglect or default of the master, mariner, pilot or the servants of the Carrier in the navigation or in the management of the vessel.
(j) fire, unless caused by the actual fault or privity of the Carrier.
(k) act and instructions of governments, of prince and rulers, act of god, force majeure or authorities (including custom authorities) performing their duties.
(l) independent subcontractors not appointed by or in the direct services of the Carrier.
(m) any cause or event which the Carrier could not avoid and the consequence whereof it could not prevent by the exercise of reasonable diligence.

(3) Where under Clause 11 (2) the Carrier is not under any liability in respect of some of the factors causing the loss or damage, it shall only be liable to the extent that those factors for which it is liable under this Clause have contributed to the loss or damage.
(4) It shall be presumed that a damage which under the circumstances of the case could be attributed to the causes or events specified in Clause 11 (2) were caused by these causes or events. The Merchant shall however be entitled to prove that the loss or damage was not in fact caused either wholly or partly by one or more of these causes or events.
**12. Limits of Liability**
(1) When the Carrier is liable for compensation in respect of loss of or damage to the Goods, such compensation shall be calculated by reference to the value of such Goods they would have had at the place and time they were delivered to the Merchant in accordance with the contract or when they should have been so delivered.
(2) The sound value of the Goods shall be fixed according to the commodity exchange price or, if there is no such price, according to the current market price or, if there be no commodity exchange price or current market price, by reference to the normal value of Goods of the same kind and quality and is presumed to be the FOB/FCA invoice value plus freight and insurance if paid.
(3) Compensation per Bill of Lading for Goods lost or damaged or for other damages shall not exceed US$ 1,000.00 legal tender of the USA.
(4) Compensation shall not, however, exceed the limits of the Hague Rules, Hague-Visby Rules/ US COGSA 1936/ or any other limit set under the applicable Conventions. In all other events the compensation shall not exceed US$ 2.00 per Kilo of gross weight of the Goods.
(5) Higher compensation may be claimed only when, with the consent of the Carrier, the value lor the Goods declared by the Shipper and which exceeds the limits laid down in this Clause has been stated on page two overleaf of this Bill of Lading at the place indicated and when an ad valorem freight has been paid. In that case the amount of the declared value shall be substituted for that limit.
**13. Special Provisions for Liability and Compensation**
(1) Notwithstanding anything provided for in Clauses 11 and 12 above, the loss or damage of the Carrier and or the Merchant shall, in respect of liability of the Carrier, be determined by the provisions contained in any International Convention or national law which provisions cannot be departed from by private contract, to the detriment of the claimants and which would have applied if the Merchant had made a separate and direct contract with the Carrier in respect of the particular stage of transport where the loss or damage occurred and if there was received as evidence thereof any particular document which must be issued if such International Convention or national law shall apply.
(2) If neither the Hague- or Hague-Visby Rules or US COGSA 1936 or The Water Carriage Act of 1936 apply to carriage by sea by virtue of the foregoing provisions, the liability of the Carrier in respect of any carriage by sea shall be determined by the International Convention for the Unification of certain rules relating to Bills of Lading dated 25 August 1924 (Hague Rules) and any subsequent amendments thereto. The Hague-/Hague-Visby Rules shall also determine the liability of the Carrier in respect of carriage by inland waterways as if such carriage were carriage by sea. They shall also apply to all Goods whether carried on deck or under deck.
(3) If it cannot be proven where or when or at what stage of the Carriage the Goods were lost or damaged, it shall be conclusively deemed to have occurred whilst at sea and the Carrier's liability, if any, shall be determined in accordance with the provisions of Clause 13 (2).
(4) If the place of receipt or place of delivery is not named on page two overleaf.
(a) the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises prior to loading onto the vessel;
(b) if the place of delivery is not named on the face hereof, the Carrier shall be under no liability whatsoever for loss of or damage to the Goods, howsoever occurring, if such loss or damage arises subsequent to discharge from the vessel.

(5) The clauses 11 to 13 of this Bill of Lading apply in addition lo and shall not be construed as derogating from any defence or exclusion, restriction or limitation of liability available to the Carrier under the terms of this Bill of Lading or otherwise.
**14. Delay, Consequential Loss**
Unless expressly agreed, the Carrier does not undertake that the Goods shall arrive at the Port of Discharge or Place of Delivery at any particular time or to meet any particular market or use, and the Carrier shall not be liable for direct, indirect or consequential loss or damage caused by delay. If the Carrier should nevertheless be held legally liable for any such direct or indirect or consequential loss or damage caused by such alleged delay, such liability shall be limited to the freight for the transport covered by this Bill of Lading, or to the value of the Goods as determined in Clause 12, whichever is the lesser.
**15. Notice of Loss of or Damage to the Goods**
(1) Unless notice of loss of or damage to the Goods, specifying the general nature of such loss or damage, is given in writing by the Merchant to the Carrier when the Goods are handed over to the Merchant, such handing over is prima facie evidence of the delivery by the Carrier of the Goods as described in this Bill of Lading.
(2) Where the loss or damage is not apparent, the same prima facie effect shall apply if notice in writing is not given within three (3) consecutive days after the day when the Goods were handed over to the Merchant.
**16. Defences and limits for the Carrier, Servants, etc.**
(1) The defences and limits of liability provided for in this Bill of Lading shall apply in any action against the Carrier for loss or damage to the Goods whether the action be founded in contract, bailment or in tort and even if the loss or damage arose as a result of unseaworthiness, negligence or fundamental breach of contract.
(2) The Merchant undertakes that no claim shall be made against any servant, agent, Subcontractor or other person whose services the Carrier has used in order to perform this Contract and if a claim is nevertheless made, to indemnify the Carrier against all consequences thereof.
(3) Without prejudice to the foregoing every such servant, agent, and Subcontractor shall have the benefit of all Terms and Conditions of whatsoever nature herein contained or otherwise benefiting the Carrier including Clause 5 hereof (the law and jurisdiction clause) as if such Terms and Conditions (including Clause 5) were expressly for their benefit and, in entering into this contract, the Carrier, to the extent of such Terms and Conditions, does so on its own behalf, and also as agent and trustee for such servants, agents and Subcontractors.

**17. Merchant's Responsibility**
The Merchant shall be deemed to have guaranteed to the Carrier the accuracy, at the time the Goods were taken in charge by the Carrier, of the description of the Goods, marks, numbers, quantity and weight, as furnished by it and the Merchant shall defend, indemnify and hold harmless the Carrier against all loss, damage and expenses arising or resulting from inaccuracies in or inadequacy of such particulars. The Merchant shall remain liable even if the Bill of Lading has been transferred.
**18. Shipper-packed Containers**
(1) If a Container has not been loaded, packed or stowed by the Carrier, the latter shall not be liable for loss of or damage to its contents and the Merchant shall cover any loss or expense incurred by the Carrier if such loss, damage or expense has been caused by:
(a) negligent loading, packing or stowing of the Container;
(b) the contents being unsuitable lor carriage in Container; or
(c) the unsuitability or defective condition of the Container unless the Container has been supplied by the Carrier and the unsuitability or detective condition would not have been apparent upon reasonable inspection at or prior to the time when the Container was filled, packed or stowed.

(2) The Carrier does not accept liability for damage due to the unsuitability or detective condition of any equipment supplied by the Merchant.
(3) Containers supplied by or on behalf of the Carrier shall be returned to the Carrier with interiors clean, odour free to the point or place designated by the Carrier and in the same order and condition as handed over to the Merchant at the port of loading or any other inland destination and within the time prescribed in the Carrier's tariff or elsewhere. Should a Container not be returned in such manner the Merchant shall be liable for any detention, loss or expense incurred as a result thereof.
(4) Containers released into the care of the Merchant for packing, unpacking or any other purpose whatsoever are at the sole risk of the Merchant until redelivered to the Carrier. The Merchant shall indemnify the Carrier for all loss of and/or damage and/or delay to such Containers. Merchants are deemed to be aware of the dimensions and capacity of any Containers released to them.
**19. Dangerous Goods**
(1) The Merchant shall comply with all internationally recognized requirements and all rules which apply according to national law or by reason of international Convention, relating to the carriage of Goods of a dangerous nature, and shall in any event inform the Carrier in writing of the exact nature of the danger before Goods of a dangerous nature are taken into charge by the Carrier and indicate to it, if need be, the precautions to be taken.
(2) Goods of dangerous nature which the Carrier did not know were dangerous, may, at any time or place, be unloaded, destroyed, or rendered harmless, without compensation. The Merchant shall be liable for all expenses, loss or damage arising out of their handing over for carriage or of their carriage.
(3) If any Goods shipped with the knowledge of the Carrier as to their dangerous nature shall become a danger to any person or property, they may in a like manner be landed at any place or destroyed or rendered innocuous by the Carrier without liability on the part of the Carrier except to General Average.
(4) Any hazardous cargo to be clearly marked with an asterisk on page two overleaf.
**20. Freight and Charges**
(1) The freight payable hereunder has been calculated and based on particulars of the Goods furnished by or on behalf of the Merchant. The Carrier shall be entitled at any time to reweigh, remeasure or revalue the Goods and for this purpose to open and remove and examine the contents of any Container(s) and if the particulars furnished are found to be incorrect, the freight shall be adjusted accordingly with a surcharge of 30% of the adjusted freight and the Merchant shall also pay any expenses incurred by the Carrier in checking the said particulars.
(2) Freight shall be deemed completely earned on receipt of the Goods by the Carrier and non-returnable in any event, Goods and/or Vessel lost or not lost and shall be paid by the Merchant immediately without any set-off, counter-claim or deduction or stay of execution but at latest before delivery of the cargo.
(3) Charges and/or expenses and/or claims, fines, penalties, damages, costs and other amounts which may be incurred or imposed upon Carrier by reason of any breach by Merchant of any of the terms and provisions of this Bill of Lading or of any statutory or regulatory requirement or to be paid by the Merchant as agreed and/or under the conditions of this Bill of Lading and/or under the statutory law are payable on demand shall be considered definitely payable in like manner as soon as the charges/expenses have been incurred.
(4) Merchants shall be jointly and severally liable to Carrier for freight, charges, expenses, demurrage, detention, advances and any and all costs associated with the abandonment of the Goods or a refusal of the consignee to take delivery whether or not page two overleaf has been marked “prepaid” or “collect” so long as freight, charges, expenses etc. (see above) remain unpaid.
**21. Lien**
The Carrier shall have a lien on the Goods and any documents relating thereto which shall survive delivery of the Goods for any sums whatsoever payable by or chargeable to or for the account of the Merchant under this Bill of Lading and any contract preliminary hereto and for general average contributions to whomsoever due and for the cost and expenses of recovering such sums. The Carrier shall also have a lien against the Merchant on the Goods and any document relating thereto for all sums due from him to the Carrier in connection with any other shipment of the Merchant. The Carrier may exercise its lien at any time and place in its sole discretion and may dispose of or sell the Goods privately or by pubic auction without notice to the Merchant.
**22. General Average**
(1) General Average shall be adjusted at any port or place at the Carrier's option, and to be settled according to the York-Antwerp Rules 1994, this covering all Goods, whether carried on or under deck. The New Jason Clause, as approved by BIMCO, to be considered as incorporated herein.
(2) Security including a cash deposit as the Carrier may deem sufficient to cover the estimate contribution of the Goods and any salvage and special charges thereon, shall, if required, be submitted to the Carrier prior to delivery of the Goods.
**23. Both-to-Blame Collision Clause**
The Both-to-Blame Collision Clause as adopted by BIMCO shall be considered incorporated herein.
**24. U.S. Trade**
(1) In case the contract evidenced by this Bill of Lading is subject to the Carriage of Goods by Sea Act of the United States of America, 1936 (U.S. COGSA), then the provisions stated in the said Act shall govern before loading and after discharge and throughout the entire time the Goods are in the Carrier's custody.
(2) If the U.S. COGSA applies, and unless the nature and value of the Goods have been declared by the shipper before the Goods have been handed over to the Carrier and inserted in this Bill of Lading, the Carrier shall in no event be or become liable for any loss of or damage to the Goods in an amount exceeding US$ 500 per package or customary freight unit.
(3) The Southern District Court of New York to have sole jurisdiction in cases that are litigated for cargo shipped to or from the United States of America.
**25. Non-Waiver and Severability**
Nothing in this Bill of Lading shall operate lo deprive the Carrier of any statutory protection or defence, immunity, exemption, limitation of or exoneration from liability contained in applicable laws. The Terms and Conditions of this Bill of Lading (including all the terms and conditions of the Carrier's applicable tariff incorporated herein by virtue of Clause 3 above) shall be separable, and if any part or term hereof shall be held invalid, this shall not affect the validity or enforceability of any other part or term hereof.

SACO SHIPPING LINE LIMITED
44, Kroytser
PANORAMA Residence
BLOCK A, Flat 01
3120 Limassol
Cyprus
HE 345149
FMC Organization No. 025875

Version: October 2023

B/L No. **01/26/108977**

**ATTACHED LIST:**

| | | | | | |
|---|---|---|---|---|---|
| 1 | PALLET | AUTOMOTIVE PARTS | 411,120 | 1,000 | |
| | | IMO GOODS:<br>UN 1173, ETHYL ACETATE, 3, II<br>Flash Point: -4°C (c.c.) - EmS: F-E, S-D<br>Packed in: 4 Drums [1A1]<br>96,00 100,00 lt<br>MARKS:DILL0COR<br>UN 1263, PAINT, 3, III<br>Flash Point: 27°C (c.c.) - EmS: F-E, #S-<br>Packed in: 4 Drums [1A2]<br>104,42 100,00 lt<br>MARKS:VPACB42604<br>UN 1263, PAINT, 3, III<br>Flash Point: 30°C (c.c.) - EmS: F-E, #S-<br>Packed in: 4 Drums [1A1]<br>42,48 40,00 lt<br>MARKS:VPACB42680<br>UN 1173, ETHYL ACETATE, 3, II<br>Flash Point: 4°C (c.c.) - EmS: F-E, S-D<br>LIMITED QUANTITY<br>Packed in: 1 Box with no UN tag<br>(less than 30 kgs)<br>containing as inner packagings<br>n.6 plastic bottles (each 1 L of<br>capacity)<br>5,82 5,93 lt<br>MARKS: XXADB690 | | |
| | 12 PACKAGES | BLINDING TOKYO SKIRT | 104,700 | 0,860 | |
| INDUSTRIAL ACROSS | 1 PALLET | TORNILLO | 101,300 | 0,570 | |
| | | "FREIGHT COLLECT" | | | |

# MULTIMODAL DANGEROUS GOODS FORM

| | | | |
|---|---|---|---|
| **01. Shipper / Consignor / Sender**<br>ICRO COATINGS S.P.A.<br>VIA BEDESCHI 25<br>24040 - CHIGNOLO D'ISOLA (BG)<br>ITALY | **02. Transport Document No.** 260219_MDGF105921 | | |
| | **03. Page 1 of 1 Page** | **04. Shipper's Reference**<br>*Dott. Cerina Gianluca* | |
| | | **05. Freight forwarder's reference** | |
| **06. Consignee**<br>FAURECIA SISTEMAS AUTOMOTRICES DE MEXICO SA DE CV - FIS PUEBLA PREMIUM<br>30 CIRCUITO ESTEBAN DE ANTUNANO<br>MANZANA 2<br>74160 - HUEJOTZINGO, PUEBLA - MEXICO | **07. Carrier (to be completed by the carrier)**<br>**SHIPPER'S DECLARATION**<br>I hereby declare that the contents of this consignment are fully and accurately described below by the Proper Shipping Name, and are classified, packaged, marked and labelled/placarded and are in all respects in proper condition for transport according to the applicable international and national government regulations. | | |
| **08. This shipment is within the limitations prescribed for: (delete non-applicable)**<br>~~*Passenger and Cargo Aircraft*~~ ~~*Cargo Aircraft Only*~~ | **09. Additional Handling Information**<br>Emergency Telephone: +39 035 999711 – Cerina Gianluca<br>Total Gross Mass: 248,72 kg<br>Safety Data Sheet Included | | |
| **10. Vessel/Flight No. and Date**<br>CHACABUCO | **11. Port/Place of Loading**<br>GENOA | | |
| **12. Port/Place of Discharge**<br>VERACRUZ | **13. Destination**<br>HUEJOTZINGO, PUEBLA (Mexico) | | |

| 14. Shipping Marks | * No. and kind of Packages; Description of Goods | Gross Mass (Kg) | Net Quantity | Cube (m3) |
|---|---|---|---|---|
| *DILL0COR* | **UN 1173, ETHYL ACETATE, 3, II**<br>Flash Point: -4°C (c.c.) - EmS: F-E, S-D<br>Packed in: 4 Drums [1A1] | 96,00 | 100,00 lt | |
| *VPACB42604* | **UN 1263, PAINT, 3, III**<br>Flash Point: 27°C (c.c.) - EmS: F-E, #S-E<br>Packed in: 4 Drums [1A2] | 104,42 | 100,00 lt | |
| *VPACB42680* | **UN 1263, PAINT, 3, III**<br>Flash Point: 30°C (c.c.) - EmS: F-E, #S-E<br>Packed in: 4 Drums [1A1] | 42,48 | 40,00 lt | |
| *XXADB690* | **UN 1173, ETHYL ACETATE, 3, II**<br>Flash Point: 4°C (c.c.) - EmS: F-E, S-D<br>LIMITED QUANTITY<br>Packed in: 1 Box with no UN tag (less than 30 kgs)<br>containing as inner packagings n.6 plastic bottles (each 1 L of capacity) | 5,82 | 5,93 lt | |

| 15. Container Identification No.<br>Vehicle Registration No.<br>msku1876591 | 16. Seal Number(s) | 17. Container/Vehicle Size & Type<br>40 H.C. | 18. Tare Mass (Kg) | 19. Total Gross (Kg) |
|---|---|---|---|---|

| | | |
|---|---|---|
| **CONTAINER/VEHICLE PACKING CERTIFICATE**<br>I hereby declare that the goods described above have been packed/loaded into the container/vehicle identified above in accordance with the applicable provisions.**<br>**Must be completed and signed for all container/vehicle load by person responsible for packing/loading** | **21. RECEIVING ORGANIZATION RECEIPT**<br>Received the above number of packages/containers/trailers in apparent good order and condition, unless stated hereon. RECEIVING ORGANIZATION REMARKS: | |
| **20. Name of Company**<br>SACO COMBIMAR S.p.A.<br>Via Primo Maggio n° 1<br>20066 MELZO (MI)<br>C.F./P.IVA 05444010960 - REA MI 1821952 | **Haulier's Name**<br>SACO COMBIMAR S.p.A.<br>Via Primo Maggio n° 1<br>20066 MELZO (MI)<br>C.F./P.IVA 05444010960 - REA MI 1821952<br>**Vehicle Reg. No.** | **22. Name of Company** (of shipper preparing this note)<br>ICRO COATINGS S.P.A. |
| **Name/Status of Declarant** | **Signature and Date** | **Name/Status of Declarant**<br>*Cerina Gianluca*<br>*Dangerous Goods Safety Advisor* |
| **Place and Date** | | **Place and Date**<br>CHIGNOLO D'ISOLA; 19/02/2026 |
| **Signature of Declarant** | **DRIVER'S SIGNATURE** | **Signature of Declarant** |

* **DANGEROUS GOODS:**
You must specify: Proper Shipping Name, Hazard Class, UN No., Packaging Group, (where assigned) Marine Pollutant and observe the mandatory requirements under applicable national and international governmental regulations. For the purpose of the IMDG Code, see 5.4.1.4.

** For the purpose of the IMDG Code, see 5.4.2.

**In Accordance with IMDG CODE 42nd - 2024**

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

| | |
|---|---|
| Código: | **DILL0COR** |
| Denominación | **CORRETTIVO PER ESTERLAC** |
| Número INDEX | **607-022-00-5** |
| Número CE | **205-500-4** |
| Número CAS | **141-78-6** |
| Número Registro | **01-2119475103-XXXX** |

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Solvente** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

| | | | |
|---|---|---|---|
| Razón social: | **ICRO COATINGS S.P.A. CON SOCIO UNICO** | | |
| Dirección: | **Via Bedeschi, 25** | | |
| Localidad y Estado: | **24040** | **Chignolo D'Isola** | **(BG)** |
| | | **Italia** | |
| | **Tel.** | **+39 035 999711** | |
| | **Fax** | **+39 035 999712** | |
| dirección electrónica de la persona competente, responsable de la ficha de datos de seguridad | **gianluca.cerina@icro.it** | | |
| Proveedor: | **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia** | | |

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Líquidos inflamables, categoría 2 | H225 | Líquido y vapores muy inflamables. |
| Irritación ocular, categoría 2 | H319 | Provoca irritación ocular grave. |
| Toxicidad específica en determinados órganos - exposiciones única, categoría 3 | H336 | Puede provocar somnolencia o vértigo. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro:



## SECCIÓN 2. Identificación de los peligros ... / >>

Palabras de advertencia: Peligro

Indicaciones de peligro:

| | |
|---|---|
| **H225** | Líquido y vapores muy inflamables. |
| **H319** | Provoca irritación ocular grave. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

Consejos de prudencia:

| | |
|---|---|
| **P210** | Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar. |
| **P280** | Llevar guantes / prendas / gafas / máscara de protección. |
| **P370+P378** | En caso de incendio: utilice polvo para extinguir. |
| **P261** | Evitar respirar el polvo / el humo / el gas / la niebla / los vapores / el aerosol. |

ACETATO DE ETILO
INDEX 607-022-00-5

Producto no destinado a los usos previstos por la Directiva 2004/42/CE.

### 2.3. Otros peligros

La sustancia no tiene propiedades de persistencia, bioacumulación y toxicidad (PBT) y no es muy persistente ni muy bioacumulable (vPvB).

La sustancia no tiene propiedades de alteración endocrina.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.1. Sustancias

Contiene:

| Identificación | | Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|---|
| **ACETATO DE ETILO** | | | |
| *INDEX* | *607-022-00-5* | 100 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *CE* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *Reg. REACH* | *01-2119475103-XXXX* | | |

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Quite al accidentado las eventuales lentes de contacto, si la situación permite realizar esta operación fácilmente. Lave inmediatamente con abundante agua durante al menos 15 minutos, abriendo bien los párpados. Consulte inmediatamente a un médico.
PIEL: Quitar las prendas contaminadas. Lave inmediatamente con abundante agua corriente (y, si es posible, con jabón). Consultar a un médico. Evite ulteriores contactos con las prendas contaminadas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consulte inmediatamente a un médico.
INHALACIÓN: Lleve al sujeto al aire libre, lejos del lugar del accidente. En caso de síntomas respiratorios (tos, dispnea, respiración dificultosa, asma), mantenga al accidentado en una posición que facilite la respiración. Si es necesario, administre oxígeno. Si la respiración cesa, practique respiración artificial. Consulte inmediatamente a un médico.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se

**SECCIÓN 4. Primeros auxilios** ... / >>

remite a la sección 8.

**4.2. Principales síntomas y efectos, agudos y retardados**

Información no disponible.

**4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

Si no se siente bien, comuníquese con un CENTRO DE TOXICOLOGÍA o con un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

**5.1. Medios de extinción**

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los siguientes: anhídrido carbónico, espuma y polvo químico. Para las pérdidas y derrames de producto que no se hayan incendiado, el agua nebulizada puede ser utilizada para dispersar los vapores inflamables y proteger a las personas encargadas de detener la pérdida.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
No use chorros de agua. El agua no es eficaz para extinguir el incendio; sin embargo, puede usarse para enfriar los recipientes cerrados expuestos a las llamas, previniendo estallidos y explosiones.

**5.2. Peligros específicos derivados de la sustancia o la mezcla**

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Se puede crear sobrepresión en los recipientes expuestos al fuego, con peligro de explosión. Evite respirar los productos de la combustión.

**5.3. Recomendaciones para el personal de lucha contra incendios**

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

**6.1. Precauciones personales, equipo de protección y procedimientos de emergencia**

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

Aleje a las personas desprovistas de equipo. Utilice un dispositivo antideflagrante. Elimine toda fuente de ignición (cigarrillos, llamas, chispas, etc.) o de calor en el área en que se ha verificado la pérdida.

**6.2. Precauciones relativas al medio ambiente**

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

**6.3. Métodos y material de contención y de limpieza**

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las disposiciones del punto 13.

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

### 7.1. Precauciones para una manipulación segura

Mantenga el producto lejos de fuentes de calor, chispas y llamas libres; no fume ni use cerillas o mecheros. Sin una adecuada ventilación, los vapores podrían acumularse en el suelo y, en presencia de una fuente de ignición, incendiarse incluso a distancia, con el peligro de un retorno de llama. Evite la acumulación de cargas electrostáticas. En caso de embalajes de grandes dimensiones, conecte una toma de tierra y utilice calzado antiestático durante las operaciones de trasiego. La agitación enérgica y el paso con fuerza del líquido en las tuberías y aparatos pueden causar la formación y acumulación de cargas electrostáticas. Para evitar el peligro de incendio y explosión, evite el uso de aire comprimido durante su movimiento. Abra los recipientes con cuidado, ya que pueden estar bajo presión. No coma, beba ni fume durante el uso. Evite la dispersión del producto en el ambiente.

### 7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades

Conserve el producto solamente en el envase original. Conserve los recipientes cerrados, en un lugar bien ventilado, protegidos de la acción directa de los rayos del sol. Conserve el producto en un lugar fresco y bien ventilado, lejos de fuentes de calor, llamas libres, chispas y otras fuentes de ignición. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

Clase de almacenamiento TRGS 510 (Alemania): 3

### 7.3. Usos específicos finales

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

### 8.1. Parámetros de control

Referencias normativas:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe |
| DNK | Danmark | BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2024 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid 2024 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" Oficiālās publikācijas Nr.: 2024/65.2 |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55 |
| NLD | Nederland | Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431 |
| PRT | Portugal | Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

| | | |
|---|---|---|
| ROU | România | HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön |
| SVK | Slovensko | 121_2024 Z. z. Nariadenie vlády o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym, mutagénnym alebo reprodukčne toxickým faktorom pri práci |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024 |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | ACGIH | ACGIH 2025 |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ACETATO DE ETILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | 200 | 1468 | 400 | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| ПДК | RUS | 50 | | 200 | | п |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| ACGIH | | 1441 | 400 | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,24 | mg/l |
| Valor de referencia en agua marina | 0,024 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,15 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,115 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1,65 | mg/l |
| Valor de referencia para los microorganismos STP | 650 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 200 | mg/kg |
| Valor de referencia para el medio terrestre | 0,148 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalación | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Dérmica | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
Durante la elección de los equipos protectores personales pedir consejo a los proveedores de sustancias químicas.
Los dispositivos de protección individual deben ser conformes a las normativas vigentes y deberán llevar el marcado CE.
Prever un sistema para el lavado ocular y una ducha de emergencia.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

PROTECCIÓN DE LA PIEL
Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría I (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.

Evaluar la posibilidad de proporcionar indumentaria antiestática en caso de que en el ambiente de trabajo exista riesgo de explosión.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del trabajador. Se aconseja llevar una mascarilla con filtro de tipo A.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.
CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | incoloro | | |
| Olor | tales como: ester | | |
| Punto de fusión / punto de congelación | -84 | °C | |
| Punto inicial de ebullición | 77 | °C | |
| Inflamabilidad | no disponible | | |
| Límites inferior de explosividad | 2,2 | % (v/v) | Temperatura: 20 °C |
| Límites superior de explosividad | 11,5 | % (v/v) | Temperatura: 20 °C |
| Punto de inflamación | -4 | °C | |
| Temperatura de auto-inflamación | 427 | °C | |
| Temperatura de descomposición | no aplicable | | |
| pH | no aplicable | | |
| Viscosidad cinemática | no aplicable | | |
| Solubilidad | parcialmente soluble en agua | | |
| Coeficiente de reparto n-octanol/agua | 0,68 | | |
| Presión de vapor | 75 | hPa | |
| Densidad y/o densidad relativa | 0,9 | g/cm3 | Temperatura: 20 °C |
| Densidad de vapor relativa | 3,04 | | Nota:Aria = 1 |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | | | |
|---|---|---|---|---|
| Peso molecular g/mol | 88,11 | | | |
| VOC (Directiva 2010/75/UE) | 100,00 % | - | 900,00 | gr/litro |
| VOC (carbono volátil) | 54,48 % | - | 490,30 | gr/litro |

## SECCIÓN 10. Estabilidad y reactividad

### 10.1. Reactividad

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

Se descompone lentamente con ácido acético y etanol, por la acción de la luz, el aire y el agua.

## SECCIÓN 10. Estabilidad y reactividad ... / >>

**10.2. Estabilidad química**

El producto es estable en las condiciones normales de uso y almacenamiento.

**10.3. Posibilidad de reacciones peligrosas**

Los vapores pueden formar mezclas explosivas con el aire.

Riesgo de explosión por contacto con: metales alcalinos,hidruros,óleum.Puede reaccionar violentamente con: flúor,agentes oxidantes fuertes,ácido clorosulfúrico,ter-butóxido de potasio.Forma mezclas explosivas con: aire.

**10.4. Condiciones que deben evitarse**

Evite el recalentamiento. Evite la acumulación de cargas electrostáticas. Evite cualquier fuente de ignición.

Evitar la exposición a: luz,fuentes de calor,llamas libres.

**10.5. Materiales incompatibles**

Incompatible con: ácidos,bases,oxidantes fuertes,ácido clorosulfúrico.

**10.6. Productos de descomposición peligrosos**

En caso de descomposición térmica o incendio, se pueden liberar gases y vapores potencialmente perjudiciales para la salud.

## SECCIÓN 11. Información toxicológica

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

Información no disponible.

Información sobre posibles vías de exposición

Información no disponible.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

Información no disponible.

Efectos interactivos

Información no disponible.

TOXICIDAD AGUDA

| | |
|---|---|
| LD50 (Cutánea): | > 20000 mg/kg rabbit |
| LD50 (Oral): | 5620 mg/kg rat |
| LC50 (Inhalación nieblas/polvos): | 11,72 mg/l/4h rat |

CORROSIÓN O IRRITACIÓN CUTÁNEAS

La exposición repetida puede provocar sequedad o formación de grietas en la piel.

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

Provoca irritación ocular grave

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

No responde a los criterios de clasificación para esta clase de peligro

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

## SECCIÓN 11. Información toxicológica ... / >>

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

Puede provocar somnolencia o vértigo

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

No responde a los criterios de clasificación para esta clase de peligro

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

**11.2. Información sobre otros peligros**

Según los datos disponibles, la sustancia no figura entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

Utilizar según las buenas prácticas de trabajo, evitando la dispersión del producto en el ambiente. Advertir a las autoridades competentes si el producto ha entrado en contacto con cursos de agua o si ha contaminado el suelo o la vegetación.

**12.1. Toxicidad**

| | |
|---|---|
| LC50 - Peces | 230 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 165 mg/l/48h Daphnia cucullata |
| EC10 Algas / Plantas Acuáticas | 2,3 mg/l/48h |
| NOEC crónica peces | 9,65 mg/l/32d pimephales promelas |
| NOEC crónica crustáceos | 2,4 mg/l/21d Daphnia magna |
| NOEC crónica algas / plantas acuáticas | 100 mg/l/72h Scenedesmus subspicatus |

**12.2. Persistencia y degradabilidad**

| | |
|---|---|
| Solubilidad en agua | > 10000 mg/l |
| Rápidamente degradable | |

**12.3. Potencial de bioacumulación**

| | |
|---|---|
| Coeficiente de distribución: n-octanol/agua | 0,68 |
| BCF | 30 |

**12.4. Movilidad en el suelo**

Información no disponible.

**12.5. Resultados de la valoración PBT y mPmB**

La sustancia no tiene propiedades de persistencia, bioacumulación y toxicidad (PBT) y no es muy persistente ni muy bioacumulable (vPvB).

**12.6. Propiedades de alteración endocrina**

Según los datos disponibles, la sustancia no figura entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

**12.7. Otros efectos adversos**

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

**13.1. Métodos para el tratamiento de residuos**

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
El transporte de residuos puede estar sujeto al ADR.

## SECCIÓN 13. Consideraciones relativas a la eliminación ... / >>

La gestión de los residuos derivados de la utilización o dispersión de este producto debe organizarse de acuerdo con las normas de seguridad laboral. Véase la sección 8 para conocer la posible necesidad de EPI.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

**14.1. Número ONU o número ID**

ADR / RID, IMDG, IATA: ONU 1173

**14.2. Designación oficial de transporte de las Naciones Unidas**

ADR / RID: ACETATO DE ETILO
IMDG: ETHYL ACETATE
IATA: ETHYL ACETATE

**14.3. Clase(s) de peligro para el transporte**

ADR / RID: Clase: 3 Etiqueta: 3

IMDG: Clase: 3 Etiqueta: 3

IATA: Clase: 3 Etiqueta: 3



**14.4. Grupo de embalaje**

ADR / RID, IMDG, IATA: II

**14.5. Peligros para el medio ambiente**

ADR / RID: NO
IMDG: no contaminante marino
IATA: NO

**14.6. Precauciones particulares para los usuarios**

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 33 | Cantidades limitadas: 1 lt | Código de restricción en túnel: (D/E) |
| | Disposiciónes especiales: - | | |
| IMDG: | EMS: F-E, S-D | Cantidades limitadas: 1 lt | |
| IATA: | Cargo: | Cantidad máxima: 60 L | Instrucciones embalaje: 364 |
| | Pasajeros: | Cantidad máxima: 5 L | Instrucciones embalaje: 353 |
| | Disposiciónes especiales: | - | |

**14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI**

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

**15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

Categoría Seveso - Directivo 2012/18/UE: P5c

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos

## SECCIÓN 15. Información reglamentaria ... / >>

no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

Controles sanitarios
Los trabajadores expuestos a este agente químico no deben ser sometidos a la vigilancia sanitaria, siempre y cuando los resultados de la evaluación de los riesgos demuestren que existe sólo un moderado riesgo para la seguridad y la salud de los trabajadores y que las medidas previstas por la directiva 98/24/CE estén siendo respetadas y sean suficientes para reducir el riesgo.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 1: Poco peligroso para las aguas.
Sustancia presente en el anexo 2

**15.2. Evaluación de la seguridad química**

No ha sido elaborada / aún no está disponible una evaluación de seguridad química para la sustancia.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 2** | Líquidos inflamables, categoría 2 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **H225** | Líquido y vapores muy inflamables. |
| **H319** | Provoca irritación ocular grave. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico
- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos
- REACH: Reglamento (CE) 1907/2006
- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral

## SECCIÓN 16. Otra información ... / >>

- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

BIBLIOGRAFÍA GENERAL:
1. Reglamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)
6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)
8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
10. Reglamento (UE) 2015/1221 del Parlamento Europeo (VII Atp. CLP)
11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
13. Reglamento (UE) 2017/776 (X Atp. CLP)
14. Reglamento (UE) 2018/669 (XI Atp. CLP)
15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
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21. Reglamento delegado (UE) 2021/849 (XVII Atp. CLP)
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23. Reglamento delegado (UE) 2023/707
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27. Reglamento delegado (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.
Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

Modificaciones con respecto a la revisión precedente:
Han sido realizadas variaciones en las siguientes secciones:
08.

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

Código: **TT49L0078**
Denominación **STAIN FORD U717**

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Producto de pintura** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

Razón social: **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Dirección: **Via Bedeschi, 25**
Localidad y Estado: **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

dirección electrónica de la persona competente,
responsable de la ficha de datos de seguridad **gianluca.cerina@icro.it**

Proveedor: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia**

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 3 | H412 | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro: --

Palabras de advertencia: --

Indicaciones de peligro:
**H412** Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

Consejos de prudencia:
**P273** Evitar su liberación al medio ambiente.

## SECCIÓN 2. Identificación de los peligros ... / >>

### 2.3. Otros peligros

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

El producto no contiene sustancias con propiedades de alteración del sistema endocrino en concentración ≥ 0,1%.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.2. Mezclas

Contiene:

| Identificación | | x = Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|---|
| **1-METOXI-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 5 ≤ x < 7 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *CE* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *Reg. REACH* | *01-2119457435-XXXX* | | |
| **DIPROPILENGLICOL MONOMETIL ÉTER** | | | |
| *INDEX* | | 1 ≤ x < 1,5 | **Sustancia para la que exista un límite de exposición comunitario en el lugar de trabajo.** |
| *CE* | *252-104-2* | | |
| *CAS* | *34590-94-8* | | |
| *Reg. REACH* | *01-2119450011-XXXX* | | |
| **ÓXIDO DE CINC** | | | |
| *INDEX* | *030-013-00-7* | 1 ≤ x < 1,5 | **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *CE* | *215-222-5* | | |
| *CAS* | *1314-13-2* | | |
| *Reg. REACH* | *01-2119463881-XXXX* | | |
| **4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318** |
| *CE* | *218-760-9* | | **LD50 Oral: 1053 mg/kg** |
| *CAS* | *2226-96-2* | | |
| *Reg. REACH* | *01-2119968566-20-XXXX* | | |
| **ALÚMINA** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | |
| *CE* | *215-691-6* | | |
| *CAS* | *1344-28-1* | | |
| *Reg. REACH* | *01-2119529248-XXXX* | | |
| **DIÓXIDO DE TITANIO** | | | |
| *INDEX* | | 0,4 ≤ x < 0,45 | **Nota de clasificación según el anexo VI del Reglamento CLP: 10** |
| *CE* | *236-675-5* | | |
| *CAS* | *13463-67-7* | | |
| *Reg. REACH* | *01-2119489379-XXXX* | | |
| **C.I. PIGMENTO AMARILLO 83** | | | |
| *INDEX* | | 0,3 ≤ x < 0,35 | |
| *CE* | *226-939-8* | | |
| *CAS* | *5567-15-7* | | |
| **ACETONA** | | | |
| *INDEX* | *606-001-00-8* | 0,25 ≤ x < 0,3 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *CE* | *200-662-2* | | |
| *CAS* | *67-64-1* | | |
| *Reg. REACH* | *01-2119471330-XXXX* | | |
| **2-BUTOXIETANOL** | | | |
| *INDEX* | *603-014-00-0* | 0,15 ≤ x < 0,2 | **Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315** |
| *CE* | *203-905-0* | | **LD50 Oral: 1200 mg/kg, LC50 Inhalación vapores: 3 mg/l/4h** |
| *CAS* | *111-76-2* | | |
| *Reg. REACH* | *01-2119475108-XXXX* | | |
| **PIGMENTO ROJO 221** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | |
| *CE* | *275-639-3* | | |
| *CAS* | *71566-54-6* | | |
| **NEGRO DE CARBONO** | | | |
| *INDEX* | | 0,05 ≤ x < 0,09 | |
| *CE* | *215-609-9* | | |
| *CAS* | *1333-86-4* | | |
| *Reg. REACH* | *01-2119384822-XXXX* | | |

## SECCIÓN 3. Composición/información sobre los componentes ... / >>

**2-(2-BUTOXIETOXI)ETANOL**
*INDEX* *603-096-00-8* 0,05 ≤ x < 0,09 **Eye Irrit. 2 H319**
*CE* *203-961-6*
*CAS* *112-34-5*
*Reg. REACH* *01-2119475104-XXXX*

**2-DIMETILAMINOETANOL**
*INDEX* *603-047-00-0* 0,02 ≤ x < 0,06 **Flam. Liq. 3 H226, Acute Tox. 3 H331, Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335**
*CE* *203-542-8* **STOT SE 3 H335: ≥ 5%**
*CAS* *108-01-0* **LD50 Oral: 1182,7 mg/kg, LD50 Cutánea: 1219 mg/kg, LC50 Inhalación vapores: 6 mg/l/4h**
*Reg. REACH* *01-2119492298-XXXX*

**PROPAN-2-OL**
*INDEX* *603-117-00-0* 0,02 ≤ x < 0,06 **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336**
*CE* *200-661-7*
*CAS* *67-63-0*
*Reg. REACH* *01-2119457558-XXXX*

**DIÓXIDO DE ESTAÑO**
*INDEX* 0 < x < 0,03
*CE* *242-159-0*
*CAS* *18282-10-5*

**C12 -18-ALQUIL DIMETILAMINA**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
*CE* *269-923-6* **LD50 Oral: 500 mg/kg**
*CAS* *68391-04-8*

**2-METIL-2H-ISOTIAZOL-3-ONA**
*INDEX* 0 < x < 0,0015 **Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH071**
*CE* *220-239-6* **Skin Sens. 1 H317: ≥ 0,0015%**
*CAS* *2682-20-4* **LD50 Oral: >120 mg/kg, LD50 Cutánea: >242 mg/kg, ETA Inhalación nieblas/polvos: 0,051 mg/l**

**MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN**
*INDEX* *613-167-00-5* 0 < x < 0,0015 **Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Nota de clasificación según el anexo VI del Reglamento CLP: B**
*CE* *911-418-6* **Skin Corr. 1B H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1 H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,6% - < 0,6%**
*CAS* *55965-84-9* **ETA Oral: 100 mg/kg, ETA Cutánea: 50,001 mg/kg, ETA Inhalación nieblas/polvos: 0,051 mg/l**
*Reg. REACH* *01-2120764691-XXXX*

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

No se prevén efectos que requieran medidas especiales de primeros auxilios. Las siguientes son indicaciones prácticas de correcto comportamiento en caso de contacto con un producto químico, incluso si este no es peligroso.
En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Lave inmediatamente con abundante agua corriente. Consultar a un médico en caso de síntomas.
PIEL: Lavar con abundante agua. Consultar a un médico en caso de síntomas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consultar a un médico.
INHALACIÓN: Traslade al sujeto al aire libre. Consultar a un médico en caso de síntomas.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se remite a la sección 8.

**SECCIÓN 4. Primeros auxilios** ... / >>

**4.2. Principales síntomas y efectos, agudos y retardados**

No hay información específica sobre síntomas y efectos provocados por el producto.

EFECTOS RETARDADOS: Sobre la base de los datos disponibles, no se conocen casos de efectos retardados después de la exposición a este producto.

**4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

Si aparecen síntomas, ya sean agudos o retardados, consulte a un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

**5.1. Medios de extinción**

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los tradicionales: anhídrido carbónico, espuma, polvos y agua nebulizada.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
Ninguno en particular.

**5.2. Peligros específicos derivados de la sustancia o la mezcla**

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Evite respirar los productos de la combustión.

**5.3. Recomendaciones para el personal de lucha contra incendios**

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

**6.1. Precauciones personales, equipo de protección y procedimientos de emergencia**

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

**6.2. Precauciones relativas al medio ambiente**

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

**6.3. Métodos y material de contención y de limpieza**

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las disposiciones del punto 13.

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

**7.1. Precauciones para una manipulación segura**

Mantenga el producto lejos de fuentes de calor, chispas y llamas libres; no fume ni use cerillas o mecheros. Sin una adecuada ventilación, los vapores podrían acumularse en el suelo y, en presencia de una fuente de ignición, incendiarse incluso a distancia, con el peligro de un retorno de llama. Evite la acumulación de cargas electrostáticas. No coma, beba ni fume durante el uso. Quítese las prendas contaminadas y los dispositivos de protección antes de acceder a la zona destinada a comer. Evite la dispersión del producto en el ambiente.

**7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

Conserve el producto solamente en el envase original. Conserve el producto en un lugar fresco y bien ventilado, lejos de fuentes de calor, llamas libres, chispas y otras fuentes de ignición. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

**7.3. Usos específicos finales**

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

**8.1. Parámetros de control**

Referencias normativas:

| | | |
|---|---|---|
| ALB | Shqipëria | VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES “PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË” |
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe |
| DNK | Danmark | BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2024 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid 2024 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ’’σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία’’» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" Oficiāllāās publikāācijas Nr.: 2024/65.2 |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55 |
| NLD | Nederland | Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431 |
| PRT | Portugal | Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

| | | |
|---|---|---|
| | | lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön |
| SVK | Slovensko | 121_2024 Z. z. Nariadenie vlády o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym, mutagénnym alebo reprodukčne toxickým faktorom pri práci |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024 |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | ACGIH | ACGIH 2025 |

### NEGRO DE CARBONO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 3,5 | | | | |
| VLEP | FRA | 3,5 | | | | |
| VLEP | ITA | 3 | | | | |
| WEL | GBR | 3,5 | | | | |
| ACGIH | | 3 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 50 | mg/l |
| Valor de referencia en agua marina | | |
| Valor de referencia para sedimentos en agua dulce | NPI | |
| Valor de referencia para sedimentos en agua marina | NPI | |
| Valor de referencia para el agua, liberación intermitente | | |
| Valor de referencia para los microorganismos STP | VND | |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | NPI | |
| Valor de referencia para el medio terrestre | NPI | |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Inhalación | | | | 0,060 mg/m3 | | | | 1 mg/m3 |

### DIÓXIDO DE ESTAÑO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| ACGIH | | 2 | | | | |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | ITA | 10 | | | | INHAL |
| VLEP | ITA | 3 | | | | RESPIR |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,03 | mg/l |
| Valor de referencia en agua marina | 0,003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,126 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0169 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,54 | mg/l |
| Valor de referencia para los microorganismos STP | 430 | mg/l |
| Valor de referencia para el medio terrestre | 0,031 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 4 mg/kg/d | | 0,2 mg/kg/d | | | | |
| Inhalación | | 7 mg/m3 | | 0,3 mg/m3 | | | | 1,2 mg/m3 |
| Dérmica | | 4 mg/kg | | 0,2 mg/kg | | 8 mg/kg | | 0,3 mg/kg/bw |

### 2-METIL-2H-ISOTIAZOL-3-ONA

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00339 | mg/l |
| Valor de referencia en agua marina | 0,00339 | mg/l |
| Valor de referencia para sedimentos en agua dulce | NEA | |
| Valor de referencia para sedimentos en agua marina | NPI | |
| Valor de referencia para el agua, liberación intermitente | 0,0039 | mg/l |
| Valor de referencia para los microorganismos STP | 0,23 | mg/l |
| Valor de referencia para el medio terrestre | 0,0471 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 0,053 mg/kg bw/d | | 0,027 mg/kg bw/d | | | | |
| Inhalación | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI |
| Dérmica | | NPI | NPI | NPI | | NPI | NPI | NPI |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00339 | mg/l |
| Valor de referencia en agua marina | 0,00339 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,027 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,027 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00339 | mg/l |
| Valor de referencia para los microorganismos STP | 0,23 | mg/l |
| Valor de referencia para el medio terrestre | 0,01 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 0,11 mg/kg bw/d | | 0,09 mg/kg bw/d | | | | |
| Inhalación | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

### C12 -18-ALQUIL DIMETILAMINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00026 | mg/l |
| Valor de referencia en agua marina | 0,00003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,25 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,125 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00026 | mg/l |
| Valor de referencia para los microorganismos STP | 0,13 | mg/l |
| Valor de referencia para el medio terrestre | 0,841 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,250 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 0,430 mg/m3 | 1 mg/m3 | 5,4 mg/m3 | 1 mg/m3 | 1,8 mg/m3 |
| Dérmica | NPI | NPI | NPI | NPI | | NPI | | NPI |

### PIGMENTO ROJO 221

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Inhalación | | | | | | 3 mg/m3 | | |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**C.I. PIGMENTO AMARILLO 83**

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | |
|---|---|
| Valor de referencia en agua dulce | NPI |
| Valor de referencia en agua marina | NPI |
| Valor de referencia para sedimentos en agua dulce | NPI |
| Valor de referencia para sedimentos en agua marina | NPI |
| Valor de referencia para el agua, liberación intermitente | NPI |
| Valor de referencia para los microorganismos STP | NPI |
| Valor de referencia para el medio terrestre | NPI |
| Valor de referencia para la atmósfera | NPI |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | NPI | 3 mg/m3 | NPI | 3 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### DIPROPILENGLICOL MONOMETIL ÉTER

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 308 | 50 | | | PIEL | |
| TLV | BGR | 308 | 50 | | | PIEL | |
| TLV | CZE | 270 | 43,8 | 550 | 89,3 | PIEL | |
| AGW | DEU | 310 | 50 | 310 | 50 | | 11 |
| MAK | DEU | 310 | 50 | 310 | 50 | | |
| TLV | DNK | 309 | 50 | 618 | 100 | PIEL | E |
| VLA | ESP | 308 | 50 | | | PIEL | |
| TLV | EST | 308 | 50 | | | PIEL | |
| VLEP | FRA | 308 | 50 | | | PIEL | |
| TLV | GRC | 600 | 100 | 900 | 150 | | |
| AK | HUN | 308 | 50 | | | | |
| GVI/KGVI | HRV | 308 | 50 | | | PIEL | |
| VLEP | ITA | 308 | 50 | | | PIEL | |
| RV | LVA | 308 | 50 | | | PIEL | |
| TLV | NOR | 300 | 50 | | | PIEL | |
| TGG | NLD | 300 | | | | | |
| VLE | PRT | 308 | 50 | | | PIEL | |
| NDS/NDSCh | POL | 240 | | 480 | | PIEL | |
| TLV | ROU | 308 | 50 | | | PIEL | |
| NGV/KGV | SWE | 300 | 50 | 450 (C) | 75 (C) | PIEL | |
| NPEL | SVK | 308 | 50 | | | PIEL | |
| MV | SVN | 308 | 50 | 308 | 50 | PIEL | |
| ESD | TUR | 308 | 50 | | | PIEL | |
| WEL | GBR | 308 | 50 | | | PIEL | |
| OEL | EU | 308 | 50 | | | PIEL | |
| ACGIH | | | 50 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 19 | mg/l |
| Valor de referencia en agua marina | 1,9 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 70,2 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 7,02 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 190 | mg/l |
| Valor de referencia para los microorganismos STP | 4168 | mg/l |
| Valor de referencia para el medio terrestre | 2,74 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 36 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 37,2 mg/m3 | NPI | NPI | NPI | 308 mg/m3 |
| Dérmica | NPI | NPI | NPI | 121 mg/kg bw/d | NPI | NPI | NPI | 283 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**DIÓXIDO DE TITANIO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 10 | | | | RESPIR |
| MAK | DEU | 0,3 | | 2,4 | | RESPIRHinweis |
| TLV | DNK | 6 | | 12 | | Som Ti |
| VLA | ESP | 10 | | | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 10 | | | | |
| TLV | GRC | | 10 | | | |
| GVI/KGVI | HRV | 10 | | | | INHAL |
| GVI/KGVI | HRV | 4 | | | | RESPIR |
| RV | LVA | 10 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 10 | | | | INHAL |
| TLV | ROU | 10 | | 15 | | |
| ПДК | RUS | 10 | | | | a, Ф |
| NGV/KGV | SWE | 5 | | | | Totaldamm |
| NPEL | SVK | 5 | | | | |
| WEL | GBR | 10 | | | | INHAL |
| WEL | GBR | 4 | | | | RESPIR |
| ACGIH | | 0,2 | | | | RESPIR |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | 0,028 mg/m3 | NPI | NPI | NPI | 0,170 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 2-(2-BUTOXIETOXI)ETANOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | ALB | 67,5 | 10 | 101,2 | 15 | |
| TLV | BGR | 67,5 | 10 | 101,2 | 15 | |
| TLV | CZE | 67,5 | 10 | 101,2 | 15 | |
| AGW | DEU | 67 | 10 | 100,5 | 15 | Hinweis, 11 |
| MAK | DEU | 67 | 10 | 100,5 | 15 | Hinweis |
| TLV | DNK | 68 | 10 | 101 | 15 | E |
| VLA | ESP | 67,5 | 10 | 101,2 | 15 | |
| VLEP | FRA | 67,5 | 10 | 101,2 | 15 | |
| TLV | GRC | 67,5 | 10 | 101,2 | 15 | |
| AK | HUN | 67,5 | 10 | 101,2 | 15 | |
| GVI/KGVI | HRV | 67,5 | 10 | 101,2 | 15 | |
| VLEP | ITA | 67,5 | 10 | 101,2 | 15 | |
| RV | LVA | 67,5 | 10 | 101,2 | 15 | |
| TLV | NOR | 68 | 10 | | | |
| TGG | NLD | 50 | | 100 | | PIEL |
| VLE | PRT | 67,5 | 10 | 101,2 | 15 | |
| NDS/NDSCh | POL | 67 | | 100 | | |
| TLV | ROU | 67,5 | 10 | 101,2 | 15 | |
| ПДК | RUS | | | 5 | | п |
| NGV/KGV | SWE | 68 | 10 | 101 | 15 | |
| NPEL | SVK | 67,5 | 10 | 101,2 | 15 | |
| MV | SVN | 67,5 | 10 | 101,2 | 15 | |
| ESD | TUR | 67,5 | 10 | 101,2 | 15 | |
| WEL | GBR | 67,5 | 10 | 101,2 | 15 | |
| OEL | EU | 67,5 | 10 | 101,2 | 15 | |
| ACGIH | | 66 | 10 | | | INHAL |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 1 | mg/l |
| Valor de referencia en agua marina | 0,1 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 4 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,4 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 3,9 | mg/l |
| Valor de referencia para los microorganismos STP | 200 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 56 | mg/kg |
| Valor de referencia para el medio terrestre | 0,4 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 1,25 mg/kg | | | | |
| Inhalación | 50,6 mg/m3 | NPI | 34 mg/m3 | 34 mg/m3 | 101,2 mg/m3 | NPI | 67,5 mg/m3 | 67,5 mg/m3 |
| Dérmica | NPI | NPI | NPI | 10 mg/kg | NPI | NEA | | 20 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ALÚMINA**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 10 | | | | INHAL |
| TLV | BGR | 1,5 | | | | RESPIR |
| TLV | DNK | 5 | | 10 | | Som Al |
| TLV | DNK | 2 | | 4 | | RESPIR Som Al |
| VLA | ESP | 10 | | | | |
| TLV | EST | 10 | | | | kogu tolm |
| TLV | EST | 4 | | | | RESPIR peentolm |
| VLEP | FRA | 10 | | | | |
| TLV | GRC | | 10 | | | |
| AK | HUN | 5 | | | | Al-ra számítva |
| AK | HUN | 2 | | | | RESPIR Al-ra számítva |
| GVI/KGVI | HRV | 10 | | | | INHAL |
| GVI/KGVI | HRV | 4 | | | | RESPIR |
| RV | LVA | 6 | | | | |
| TLV | NOR | 10 | | | | |
| NDS/NDSCh | POL | 2,5 | | | | INHAL Na Al |
| NDS/NDSCh | POL | 1,2 | | | | RESPIR Na Al |
| TLV | ROU | 2 | | 5 | | Aerosoli |
| ПДК | RUS | 6 | | | | a, Ф |
| NPEL | SVK | 4 | | | | INHAL |
| NPEL | SVK | 1,5 | | | | RESPIR |
| WEL | GBR | 10 | | | | INHAL |
| WEL | GBR | 4 | | | | RESPIR |
| ACGIH | | 1 | | | | RESPIR Al |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia para los microorganismos STP | 20 | mg/l |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 1,32 mg/kg bw/d | | | | |
| Inhalación | | | 0,750 mg/m3 | 0,750 mg/m3 | | | 3 mg/m3 | 3 mg/m3 |

**MASA DE REACCIÓN DE 5-CLORO-2- METIL-2H-ISOTIAZOL-3-ONA Y 2-METIL-2H-ISOTIAZOL-3-ONA (3:1)**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| MAK | DEU | 0,2 | | 0,4 | | INHAL |
| NDS/NDSCh | POL | 0,2 | | 0,4 | | PIEL |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**2-BUTOXIETANOL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 98 | 20 | 246 | 50 | PIEL | |
| TLV | BGR | 98 | 20 | 246 | 50 | PIEL | |
| TLV | CZE | 100 | 20,4 | 200 | 40,8 | PIEL | |
| AGW | DEU | 49 | 10 | 98 | 20 | PIEL | |
| MAK | DEU | 49 | 10 | 98 | 20 | PIEL | Hinweis |
| TLV | DNK | 98 | 20 | 246 | 50 | PIEL | E |
| VLA | ESP | 98 | 20 | 245 | 50 | PIEL | |
| TLV | EST | 98 | 20 | 246 | 50 | | |
| VLEP | FRA | 49 | 10 | 246 | 50 | PIEL | |
| TLV | GRC | 120 | 25 | | | | |
| AK | HUN | 98 | 20 | 246 | 50 | PIEL | |
| GVI/KGVI | HRV | 98 | 20 | 246 | 50 | PIEL | |
| VLEP | ITA | 98 | 20 | 246 | 50 | PIEL | |
| RV | LVA | 98 | 20 | 246 | 50 | PIEL | |
| TLV | NOR | 50 | 10 | | | PIEL | |
| TGG | NLD | 100 | | 246 | | PIEL | |
| VLE | PRT | 98 | 20 | 246 | 50 | PIEL | |
| NDS/NDSCh | POL | 98 | | 200 | | PIEL | |
| TLV | ROU | 98 | 20 | 246 | 50 | PIEL | |
| ПДК | RUS | | | 10 | | | п |
| NGV/KGV | SWE | 50 | 10 | 246 | 50 | PIEL | |
| NPEL | SVK | 98 | 20 | 246 | 50 | PIEL | |
| MV | SVN | 98 | 20 | 246 | 50 | PIEL | |
| ESD | TUR | 98 | 20 | 246 | 50 | PIEL | |
| WEL | GBR | 123 | 25 | 246 | 50 | PIEL | |
| OEL | EU | 98 | 20 | 246 | 50 | PIEL | |
| ACGIH | | 97 | 20 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 8,8 | mg/l |
| Valor de referencia en agua marina | 0,88 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 34,6 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 3,46 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 9,1 | mg/l |
| Valor de referencia para los microorganismos STP | 463 | mg/l |
| Valor de referencia para el medio terrestre | 3,13 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 3,2 mg/kg | | | | |
| Inhalación | | | | 49 mg/m3 | | | | 98 mg/kg |
| Dérmica | | | | 38 mg/kg | | | | 75 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**2-DIMETILAMINOETANOL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| GVI/KGVI | HRV | 7,4 | 2 | 22 | 6 | |
| RV | LVA | 5 | | | | |
| ПДК | RUS | | | 5 | | п |
| WEL | GBR | 7,4 | 2 | 22 | 6 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0661 | mg/l |
| Valor de referencia en agua marina | 0,004 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,246 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,015 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,661 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 0,01 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,148 mg/kg/d | | | | |
| Inhalación | NPI | NPI | NPI | 0,43755 mg/m3 | 13,53 mg/m3 | 5,28 mg/m3 | 1,76 mg/m3 | 1,76 mg/m3 |
| Dérmica | NPI | NPI | NPI | NPI | 0,100 mg/cm2 | 1,2 mg/kg | | 0,25 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 1-METOXI-2-PROPANOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | ALB | 375 | 100 | 568 | 150 | PIEL |
| TLV | BGR | 375 | 100 | 568 | 150 | PIEL |
| TLV | CZE | 270 | 72,09 | 550 | 146,84 | PIEL |
| AGW | DEU | 370 | 100 | 740 | 200 | |
| MAK | DEU | 370 | 100 | 740 | 200 | |
| TLV | DNK | 185 | 50 | 568 | 150 | PIEL E |
| VLA | ESP | 375 | 100 | 568 | 150 | PIEL |
| TLV | EST | 375 | 100 | 568 | 150 | PIEL |
| VLEP | FRA | 188 | 50 | 375 | 100 | PIEL |
| TLV | GRC | 360 | 100 | 1080 | 300 | |
| AK | HUN | 375 | 100 | 568 | 150 | PIEL |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | |
| VLEP | ITA | 375 | 100 | 568 | 150 | PIEL |
| RV | LVA | 375 | 100 | 568 | 150 | PIEL |
| TLV | NOR | 180 | 50 | | | PIEL |
| TGG | NLD | 375 | | 563 | | PIEL |
| VLE | PRT | 375 | 100 | 568 | 150 | |
| NDS/NDSCh | POL | 180 | | 360 | | PIEL |
| TLV | ROU | 375 | 100 | 568 | 150 | PIEL |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | PIEL |
| NPEL | SVK | 375 | 100 | 568 | 150 | PIEL |
| MV | SVN | 375 | 100 | 568 | 150 | PIEL |
| ESD | TUR | 375 | 100 | 568 | 150 | PIEL |
| WEL | GBR | 375 | 100 | 560 | 150 | PIEL |
| OEL | EU | 375 | 100 | 568 | 150 | PIEL |
| ACGIH | | 184 | 50 | 368 | 100 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10 | mg/l |
| Valor de referencia en agua marina | 1 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 52,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 5,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 100 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 4,59 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Dérmica | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**PROPAN-2-OL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 980 | | 1225 | | |
| TLV | CZE | 500 | 200 | 1000 | 400 | |
| AGW | DEU | 500 | 200 | 1000 | 400 | |
| MAK | DEU | 500 | 200 | 1000 | 400 | |
| TLV | DNK | 490 | 200 | 980 | 400 | |
| VLA | ESP | 500 | 200 | 1000 | 400 | |
| TLV | EST | 350 | 150 | 600 | 250 | |
| VLEP | FRA | | | 980 | 400 | |
| TLV | GRC | 980 | 400 | 1225 | 500 | |
| AK | HUN | 500 | 200 | 1000 | 400 | PIEL |
| GVI/KGVI | HRV | 999 | 400 | 1250 | 500 | |
| RV | LVA | 350 | | 600 | | |
| TLV | NOR | 245 | 100 | | | |
| TGG | NLD | 650 | | | | |
| NDS/NDSCh | POL | 900 | | 1200 | | PIEL |
| TLV | ROU | 200 | 81 | 500 | 203 | |
| ПДК | RUS | 10 | | 50 | | п |
| NGV/KGV | SWE | 350 | 150 | 600 (C) | 250 (C) | |
| NPEL | SVK | 500 | 200 | 1000 | 400 | |
| MV | SVN | 500 | 200 | 1000 | 400 | |
| ESD | TUR | 980 | 400 | | | |
| WEL | GBR | 999 | 400 | 1250 | 500 | |
| ACGIH | | 492 | 200 | 983 | 400 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 140,9 | mg/l |
| Valor de referencia en agua marina | 140,9 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 552 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 552 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 140,9 | mg/l |
| Valor de referencia para los microorganismos STP | 2251 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 160 | mg/kg |
| Valor de referencia para el medio terrestre | 28 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 26 mg/kg | | | | |
| Inhalación | | | | 89 mg/m3 | | | | 500 mg/m3 |
| Dérmica | | | | 319 mg/kg | | | | 888 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ACETONA**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | ALB | 1210 | 500 | | | |
| TLV | BGR | 600 | | 1400 | | |
| TLV | CZE | 800 | 331,4 | 1500 | 621,4 | |
| AGW | DEU | 1200 | 500 | 2400 | 1000 | |
| MAK | DEU | 1200 | 500 | 2400 | 1000 | |
| TLV | DNK | 600 | 250 | 1200 | 500 | E |
| VLA | ESP | 1210 | 500 | | | |
| TLV | EST | 1210 | 500 | | | |
| VLEP | FRA | 1210 | 500 | 2420 | 1000 | |
| TLV | GRC | 1780 | | 3560 | | |
| AK | HUN | 1210 | 500 | | | |
| GVI/KGVI | HRV | 1210 | 500 | | | |
| VLEP | ITA | 1210 | 500 | | | |
| RV | LVA | 1210 | 500 | | | |
| TLV | NOR | 295 | 125 | | | |
| TGG | NLD | 1210 | | 2420 | | |
| VLE | PRT | 1210 | 500 | | | |
| NDS/NDSCh | POL | 600 | | 1800 | | |
| TLV | ROU | 1210 | 500 | | | |
| ПДК | RUS | 200 | | 800 | | п |
| NGV/KGV | SWE | 600 | 250 | 1200 (C) | 500 (C) | |
| NPEL | SVK | 1210 | 500 | | | |
| MV | SVN | 1210 | 500 | 2420 | 1000 | |
| ESD | TUR | 1210 | 500 | | | |
| WEL | GBR | 1210 | 500 | 3620 | 1500 | |
| OEL | EU | 1210 | 500 | | | |
| ACGIH | | | 250 | | 500 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10,6 | mg/l |
| Valor de referencia en agua marina | 1,06 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 30,4 | mg/l |
| Valor de referencia para sedimentos en agua marina | 3,04 | mg/l |
| Valor de referencia para el agua, liberación intermitente | 21 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 29,5 | mg/l |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 62 mg/kg bw/d | | | | |
| Inhalación | | | | 200 mg/m3 | 2420 mg/m3 | | | 1210 mg/m3 |
| Dérmica | | | | 62 mg/kg/d | | | | 186 mg/kg/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ÓXIDO DE CINC**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 5 | | 10 | | като цинк |
| TLV | CZE | 2 | | 5 | | Jako Zn |
| MAK | DEU | 2 | | 4 | | INHAL |
| MAK | DEU | 0,1 | | 0,4 | | RESPIR |
| TLV | DNK | 4 | | 8 | | Som Zn |
| VLA | ESP | 2 | | 10 | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 5 | | | | |
| VLEP | FRA | 10 | | | | RESPIR |
| TLV | GRC | 5 | | 10 | | |
| AK | HUN | 5 | | | | |
| GVI/KGVI | HRV | 2 | | 10 | | RESPIR |
| RV | LVA | 0,5 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 5 | | 10 | | INHAL Na Zn |
| TLV | ROU | 5 | | 10 | | Fumuri |
| ПДК | RUS | 0,5 | | 1,5 | | a |
| NGV/KGV | SWE | 5 | | | | |
| NPEL | SVK | 1 | | 1 | | RESPIR |
| MV | SVN | 5 | | 20 | | RESPIR |
| ACGIH | | 2 | | 10 | | RESPIR |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0144 | mg/l |
| Valor de referencia en agua marina | 0,0072 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 146,9 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 162,2 | mg/kg |
| Valor de referencia para los microorganismos STP | 0,1 | mg/l |
| Valor de referencia para el medio terrestre | 83,1 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.
PROTECCIÓN DE LA PIEL
Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría I (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del trabajador. Se aconseja llevar una mascarilla con filtro de tipo A.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.
CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.
No verter sin control los residuos del producto en los alcantarillados ni en los cursos de agua.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | marrón | | |
| Olor | característico | | |
| Punto de fusión / punto de congelación | 0 | °C | |
| Punto inicial de ebullición | 100 | °C | |
| Inflamabilidad | no disponible | | |
| Límites inferior de explosividad | no disponible | | |
| Límites superior de explosividad | no disponible | | |
| Punto de inflamación | no aplicable | | |
| Temperatura de auto-inflamación | no disponible | | |
| Temperatura de descomposición | no disponible | | |
| pH | 7 | | |
| Viscosidad cinemática | no disponible | | |
| Solubilidad | soluble en agua | | |
| Coeficiente de reparto n-octanol/agua | no disponible | | |
| Presión de vapor | no disponible | | |
| Densidad y/o densidad relativa | 0,99 | g/cm3 | Temperatura: 20 °C |
| Densidad de vapor relativa | no disponible | | |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | | | |
|---|---|---|---|---|
| VOC (Directiva 2010/75/UE) | 7,78 % | - | 76,98 | gr/litro |

## SECCIÓN 10. Estabilidad y reactividad

### 10.1. Reactividad

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

DIPROPILENGLICOL MONOMETIL ÉTER
Forma peróxidos con: aire.
2-BUTOXIETANOL
Se descompone por efecto del calor.
1-METOXI-2-PROPANOL
Disuelve diferentes materiales plásticos.Estable en las condiciones normales de uso y almacenamiento.
Absorbe y se disuelve en agua y en solventes orgánicos. Con el aire, puede formar lentamente peróxidos explosivos.

ACETONA
Se descompone por efecto del calor.

### 10.2. Estabilidad química

El producto es estable en las condiciones normales de uso y almacenamiento.

## SECCIÓN 10. Estabilidad y reactividad ... / >>

**10.3. Posibilidad de reacciones peligrosas**

Los vapores pueden formar mezclas explosivas con el aire.

DIPROPILENGLICOL MONOMETIL ÉTER
Puede reaccionar violentamente con: agentes oxidantes fuertes.
2-(2-BUTOXIETOXI)ETANOL
Puede reaccionar con: sustancias oxidantes.Puede formar peróxidos con: oxígeno.Libera hidrógeno en contacto con: aluminio.Puede formar mezclas explosivas con: aire.
2-BUTOXIETANOL
Puede reaccionar peligrosamente con: aluminio,agentes oxidantes.Forma peróxidos con: aire.
1-METOXI-2-PROPANOL
Puede reaccionar peligrosamente con: agentes oxidantes fuertes,ácidos fuertes.
ACETONA
Riesgo de explosión por contacto con: trifluoruro de bromo,dióxido de flúor,peróxido de hidrógeno,cloruro de nitrosilo,2-metil-1,3-butadieno,nitrometano,perclorato de nitrosilo.Puede reaccionar peligrosamente con: ter-butóxido de potasio,hidróxidos alcalinos,bromo,bromoformo,isopreno,sodio,dióxido de azufre,trióxido de cromo,cloruro de cromilo,ácido nítrico,cloroformo,ácido peroximonosulfúrico,oxicloruro de fósforo,ácido cromosulfúrico,flúor,agentes oxidantes fuertes,agentes reductores fuertes.Libera gases inflamables en contacto con: perclorato de nitrosilo.

**10.4. Condiciones que deben evitarse**

Evite el recalentamiento. Evite la acumulación de cargas electrostáticas. Evite cualquier fuente de ignición.

DIPROPILENGLICOL MONOMETIL ÉTER
Evitar la exposición a: fuentes de calor.Posibilidad de explosión.
2-(2-BUTOXIETOXI)ETANOL
Evitar la exposición a: aire.
2-BUTOXIETANOL
Evitar la exposición a: fuentes de calor,llamas libres.
1-METOXI-2-PROPANOL
Evitar la exposición a: aire.
ACETONA
Evitar la exposición a: fuentes de calor,llamas libres.

**10.5. Materiales incompatibles**

2-(2-BUTOXIETOXI)ETANOL
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
1-METOXI-2-PROPANOL
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
ACETONA
Incompatible con: ácidos,sustancias oxidantes.

**10.6. Productos de descomposición peligrosos**

En caso de descomposición térmica o incendio, se pueden liberar gases y vapores potencialmente perjudiciales para la salud.

2-(2-BUTOXIETOXI)ETANOL
Puede liberar: hidrógeno.
2-BUTOXIETANOL
Puede liberar: hidrógeno.
ACETONA
Puede liberar: cetena,sustancias irritantes.

## SECCIÓN 11. Información toxicológica

En ausencia de datos toxicológicos experimentales sobre el producto, los eventuales peligros para la salud han sido evaluados en base a las propiedades de las sustancias contenidas, según los criterios previstos por la normativa de referencia para su clasificación.
Por lo tanto, se debe considerar la concentración de cada sustancia peligrosa eventualmente citada en la secc. 3, para evaluar los efectos toxicológicos derivados de la exposición al producto.

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

Información no disponible.

Información sobre posibles vías de exposición

## SECCIÓN 11. Información toxicológica ... / >>

1-METOXI-2-PROPANOL
TRABAJADORES: inhalación; contacto con la piel.
POBLACIÓN: ingestión de alimentos o de agua contaminados; inhalación de aire ambiente; contacto con la piel de productos que contienen la sustancia.

2-(2-BUTOXIETOXI)ETANOL
TRABAJADORES: inhalación; contacto con la piel.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

1-METOXI-2-PROPANOL
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto. Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre.

2-(2-BUTOXIETOXI)ETANOL
Se puede absorber por inhalación, ingestión y contacto cutáneo; es irritante para la piel y, especialmente, para los ojos. Se pueden producir daños en el bazo. A temperatura ambiente, el peligro de inhalación es improbable, debido a la baja tensión de vapor de la sustancia.

Efectos interactivos

Información no disponible.

TOXICIDAD AGUDA

| | |
|---|---|
| ETA (Inhalación - vapores) de la mezcla: | > 20 mg/l |
| ETA (Oral) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Cutánea) de la mezcla: | No clasificado (ningún componente relevante) |

1-METOXI-2-PROPANOL

| | |
|---|---|
| LD50 (Cutánea): | > 2000 mg/kg Rat |
| LD50 (Oral): | > 4016 mg/kg Rat |
| LC50 (Inhalación vapores): | > 6000 ppm/6h Mouse |

DIPROPILENGLICOL MONOMETIL ÉTER

| | |
|---|---|
| LD50 (Cutánea): | > 9510 mg/kg Rabbit |
| LD50 (Oral): | > 5000 mg/kg Rat |
| LC50 (Inhalación vapores): | > 275 ppm/7h Rat |

ÓXIDO DE CINC

| | |
|---|---|
| LD50 (Cutánea): | 2000 mg/kg Rat |
| LD50 (Oral): | 2000 mg/kg Rat |
| LC50 (Inhalación gases): | 1,79 ppm/4h Rat |

4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

| | |
|---|---|
| LD50 (Cutánea): | > 2000 mg/kg Rat |
| LD50 (Oral): | 1053 mg/kg Rat |

ALÚMINA

| | |
|---|---|
| LD50 (Oral): | > 2000 mg/kg Rat |
| LC50 (Inhalación vapores): | > 888 mg/m3l/4h Rat |

DIÓXIDO DE TITANIO

| | |
|---|---|
| LD50 (Oral): | > 2000 mg/kg Rat |
| LC50 (Inhalación gases): | > 3,43 mg/l/4h rat |

C.I. PIGMENTO AMARILLO 83

| | |
|---|---|
| LD50 (Cutánea): | 3000 mg/kg Rat |
| LD50 (Oral): | > 15000 mg/kg Rat |
| LC50 (Inhalación vapores): | 230 mg/m3/4h Rat |

ACETONA

| | |
|---|---|
| LD50 (Cutánea): | 7400 mg/kg Rabbit |
| LD50 (Oral): | 5800 mg/kg/24h Rat |
| LC50 (Inhalación vapores): | 76 mg/l/4h Rat |

**SECCIÓN 11. Información toxicológica** ... / >>

2-BUTOXIETANOL
LD50 (Oral): 1200 mg/kg Guinea pig
LC50 (Inhalación vapores): 3 mg/l/4h Rat

PIGMENTO ROJO 221
LD50 (Oral): > 4640 mg/kg
LC50 (Inhalación gases): 1,7 mg/l/4h

NEGRO DE CARBONO
LD50 (Oral): > 8000 mg/kg Rat
LC50 (Inhalación vapores): 0,0046 mg/l/4h Rat

2-(2-BUTOXIETOXI)ETANOL
LD50 (Cutánea): 2764 mg/kg Rabbit
LD50 (Oral): 2410 mg/kg Rat

2-DIMETILAMINOETANOL
LD50 (Cutánea): 1219 mg/kg Rabbit
LD50 (Oral): 1182,7 mg/kg Rat
LC50 (Inhalación vapores): 6 mg/l/4h Rat

PROPAN-2-OL
LD50 (Cutánea): 8 mL/kg Rabbit
LD50 (Oral): 4710 mg/kg Rat
LC50 (Inhalación vapores): > 10000 ppm/6h Rat

C12 -18-ALQUIL DIMETILAMINA
LD50 (Oral): 500 mg/kg Rat

2-METIL-2H-ISOTIAZOL-3-ONA
LD50 (Cutánea): > 242 mg/kg Rat
LD50 (Oral): > 120 mg/kg Rat
LC50 (Inhalación vapores): > 100 mg/m3 Rat

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
LD50 (Cutánea): 600 mg/kg Rat
LD50 (Oral): 457 mg/kg Rat
LC50 (Inhalación vapores): 0,00123 mg/l/4h Rat

CORROSIÓN O IRRITACIÓN CUTÁNEAS

No responde a los criterios de clasificación para esta clase de peligro

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

No responde a los criterios de clasificación para esta clase de peligro

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

No responde a los criterios de clasificación para esta clase de peligro

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

## SECCIÓN 11. Información toxicológica ... / >>

No responde a los criterios de clasificación para esta clase de peligro

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

**11.2. Información sobre otros peligros**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

El producto debe ser considerado peligroso para el medio ambiente y es nocivo para los organismos acuáticos. Provocar, a largo plazo, efectos negativos en el ambiente acuático.

**12.1. Toxicidad**

| | |
|---|---|
| 1-METOXI-2-PROPANOL | |
| LC50 - Peces | < 20800 mg/l/96h pimephales promelas |
| EC50 - Crustáceos | > 21100 mg/l/48h Daphnia |
| NOEC crónica peces | < 4640 mg/l/96h |
| NOEC crónica algas / plantas acuáticas | > 1000 mg/l/7d selenastrum capricornutum |
| DIPROPILENGLICOL MONOMETIL ÉTER | |
| LC50 - Peces | > 1000 mg/l/96h Poecillia reticulata |
| EC50 - Crustáceos | 1919 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 969 mg/l/72h Selenastrum capricornutum |
| NOEC crónica crustáceos | 0,5 mg/l/22d |
| ÓXIDO DE CINC | |
| LC50 - Peces | 0,102 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | 105 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 0,022 mg/l/72h Pseudokirchneriella subcapitata |
| EC10 Algas / Plantas Acuáticas | 1,31 mg/l/7d |
| NOEC crónica peces | 0,53 mg/l |
| NOEC crónica algas / plantas acuáticas | 0,024 mg/l |
| 4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL | |
| LC50 - Peces | 545 mg/l/96h Brachydanio rerio |
| EC50 - Crustáceos | 54 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 1038 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica crustáceos | 1,5 mg/l Daphnia magna |
| ALÚMINA | |
| LC50 - Peces | > 0,078 mg/l/96h |
| EC50 - Crustáceos | > 1,5 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | > 16,9 mg/l/72h |
| NOEC crónica peces | > 57 mg/l/30d |
| NOEC crónica crustáceos | > 1034 mg/l |
| NOEC crónica algas / plantas acuáticas | 1 mg/l/6d |
| DIÓXIDO DE TITANIO | |
| EC50 - Crustáceos | > 2,41 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | 100 mg/l/72h |
| EC10 Algas / Plantas Acuáticas | 2 mg/l/72h |
| NOEC crónica peces | > 0,004 mg/l/28d |
| NOEC crónica crustáceos | 100 mg/l/28d |
| NOEC crónica algas / plantas acuáticas | 1 mg/l/32d |
| C.I. PIGMENTO AMARILLO 83 | |
| LC50 - Peces | 100 mg/l/96h |
| EC50 - Crustáceos | > 100 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | 100 mg/l/72h |
| EC10 Crustáceos | 1000 mg/l/48h |
| NOEC crónica crustáceos | 100 mg/l/48h |
| NOEC crónica algas / plantas acuáticas | 100 mg/l/72h |

## SECCIÓN 12. Información ecológica ... / >>

ACETONA

| | |
|---|---|
| LC50 - Peces | 5540 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | 8800 mg/l/48h Daphnia magna |
| NOEC crónica crustáceos | 2212 mg/l Daphnia magna |

PIGMENTO ROJO 221

| | |
|---|---|
| LC50 - Peces | 100 mg/l/96h |
| EC50 - Crustáceos | 100 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | > 97 mg/l/72h |
| EC10 Algas / Plantas Acuáticas | 10 mg/l/72h |
| NOEC crónica crustáceos | 10 mg/l |

NEGRO DE CARBONO

| | |
|---|---|
| LC50 - Peces | 1000 mg/l/96h Brachydanio rerio |
| EC50 - Crustáceos | > 5600 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 10000 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica algas / plantas acuáticas | 10000 mg/l Scenedesmus subspicatus |

2-(2-BUTOXIETOXI)ETANOL

| | |
|---|---|
| LC50 - Peces | 1,3 mg/l/96h |
| EC50 - Crustáceos | > 100 mg/l/48h daphnia |
| EC50 - Algas / Plantas Acuáticas | 1101 mg/l/72h |

2-DIMETILAMINOETANOL

| | |
|---|---|
| LC50 - Peces | 146,6 mg/l/96h Leuciscus idus |
| EC50 - Crustáceos | 98,4 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 66,1 mg/l/72h Scenedesmus subspicatus |
| EC10 Algas / Plantas Acuáticas | 24,5 mg/l/72h Scenedesmus subspicatus |

PROPAN-2-OL

| | |
|---|---|
| LC50 - Peces | 9640 mg/l/96h |
| EC50 - Crustáceos | 13299 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 1000 mg/l/72h Desmodesmus subspicatus |

2-METIL-2H-ISOTIAZOL-3-ONA

| | |
|---|---|
| LC50 - Peces | > 4,77 mg/l/96h |
| EC50 - Crustáceos | 1,6 mg/l/48h |
| NOEC crónica peces | > 2,1 mg/l/33d |
| NOEC crónica crustáceos | > 0,0442 mg/l/21d |
| NOEC crónica algas / plantas acuáticas | > 10 mg/l/96h |

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN

| | |
|---|---|
| EC50 - Algas / Plantas Acuáticas | 0,037 mg/l/72h Selenastrum capricornutum |
| NOEC crónica algas / plantas acuáticas | 0,0035 mg/l |

### 12.2. Persistencia y degradabilidad

1-METOXI-2-PROPANOL

| | |
|---|---|
| Solubilidad en agua | 1000 - 10000 mg/l |
| Rápidamente degradable | |

DIPROPILENGLICOL MONOMETIL ÉTER

| | |
|---|---|
| Solubilidad en agua | 1000 - 10000 mg/l |
| Rápidamente degradable | |

ÓXIDO DE CINC

| | |
|---|---|
| Solubilidad en agua | 2,9 mg/l |
| NO rápidamente degradable | |

ALÚMINA

| | |
|---|---|
| Solubilidad en agua | < 2E-05 mg/l |
| Degradabilidad: dato no disponible | |

DIÓXIDO DE TITANIO

| | |
|---|---|
| Solubilidad en agua | < 0,001 mg/l |
| Degradabilidad: dato no disponible | |

## SECCIÓN 12. Información ecológica ... / >>

C.I. PIGMENTO AMARILLO 83
Solubilidad en agua 0,0081 mg/l @ 23 °C

ACETONA
Rápidamente degradable

2-BUTOXIETANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

PIGMENTO ROJO 221
Solubilidad en agua 0,091 mg/l @ 23 °C

NEGRO DE CARBONO
Solubilidad en agua 1 mg/l @ 20 °C

2-(2-BUTOXIETOXI)ETANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

2-DIMETILAMINOETANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

PROPAN-2-OL
Rápidamente degradable

C12 -18-ALQUIL DIMETILAMINA
Rápidamente degradable

2-METIL-2H-ISOTIAZOL-3-ONA
Solubilidad en agua 489 g/l @ 20°C

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
Solubilidad en agua 3000 g/l 20 °C
Inherentemente degradable

### 12.3. Potencial de bioacumulación

1-METOXI-2-PROPANOL
Coeficiente de distribución: n-octanol/agua < 1

DIPROPILENGLICOL MONOMETIL ÉTER
Coeficiente de distribución: n-octanol/agua 0,0043

ÓXIDO DE CINC
BCF > 175

C.I. PIGMENTO AMARILLO 83
Coeficiente de distribución: n-octanol/agua 0,02 @ 24 °C

ACETONA
Coeficiente de distribución: n-octanol/agua -0,24
BCF 3

2-BUTOXIETANOL
Coeficiente de distribución: n-octanol/agua 0,81

PIGMENTO ROJO 221
Coeficiente de distribución: n-octanol/agua -0,57 @ 20 °C

2-(2-BUTOXIETOXI)ETANOL
Coeficiente de distribución: n-octanol/agua 1

2-DIMETILAMINOETANOL
Coeficiente de distribución: n-octanol/agua -0,55

## SECCIÓN 12. Información ecológica ... / >>

PROPAN-2-OL
Coeficiente de distribución: n-octanol/agua 0,05 Log Kow 25°C

2-METIL-2H-ISOTIAZOL-3-ONA
Coeficiente de distribución: n-octanol/agua -0,486 @ 20°C

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
Coeficiente de distribución: n-octanol/agua 0,75

**12.4. Movilidad en el suelo**

Información no disponible.

**12.5. Resultados de la valoración PBT y mPmB**

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

**12.6. Propiedades de alteración endocrina**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

**12.7. Otros efectos adversos**

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

**13.1. Métodos para el tratamiento de residuos**

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
La gestión de los residuos derivados de la utilización o dispersión de este producto debe organizarse de acuerdo con las normas de seguridad laboral. Véase la sección 8 para conocer la posible necesidad de EPI.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

El producto no debe ser considerada peligrosa según las disposiciones vigentes en lo que concierne al transporte de mercancías peligrosas por carretera (A.D.R.), ferrocarril (RID), mar (IMDG Code) y vía aérea (IATA).

**14.1. Número ONU o número ID**

no aplicable

**14.2. Designación oficial de transporte de las Naciones Unidas**

no aplicable

**14.3. Clase(s) de peligro para el transporte**

no aplicable

**14.4. Grupo de embalaje**

no aplicable

## SECCIÓN 14. Información relativa al transporte ... / >>

**14.5. Peligros para el medio ambiente**

no aplicable

**14.6. Precauciones particulares para los usuarios**

no aplicable

**14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI**

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

**15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

Categoría Seveso - Directivo 2012/18/UE: Ninguna

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos
no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

Controles sanitarios
Información no disponible.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 2: Peligroso para las aguas

**15.2. Evaluación de la seguridad química**

No se ha realizado una evaluación de seguridad química para la mezcla/las sustancias indicadas en la sección 3.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 2** | Líquidos inflamables, categoría 2 |
| **Flam. Liq. 3** | Líquidos inflamables, categoría 3 |
| **Acute Tox. 2** | Toxicidad aguda, categoría 2 |
| **Acute Tox. 3** | Toxicidad aguda, categoría 3 |
| **Acute Tox. 4** | Toxicidad aguda, categoría 4 |
| **STOT RE 2** | Toxicidad específica en determinados órganos - exposiciones repetidas, categoría 2 |
| **Skin Corr. 1B** | Corrosión cutáneas, categoría 1B |
| **Skin Corr. 1C** | Corrosión cutáneas, categoría 1C |
| **Eye Dam. 1** | Lesiones oculares graves, categoría 1 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **Skin Irrit. 2** | Irritación cutáneas, categoría 2 |

## SECCIÓN 16. Otra información ... / >>

| | |
|---|---|
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **Skin Sens. 1** | Sensibilización cutánea, categoría 1 |
| **Aquatic Acute 1** | Peligroso para el medio ambiente acuático, toxicidad aguda, categoría 1 |
| **Aquatic Chronic 1** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 1 |
| **Aquatic Chronic 3** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 3 |
| **H225** | Líquido y vapores muy inflamables. |
| **H226** | Líquidos y vapores inflamables. |
| **H310** | Mortal en contacto con la piel. |
| **H330** | Mortal en caso de inhalación. |
| **H301** | Tóxico en caso de ingestión. |
| **H311** | Tóxico en contacto con la piel. |
| **H331** | Tóxico en caso de inhalación. |
| **H302** | Nocivo en caso de ingestión. |
| **H312** | Nocivo en contacto con la piel. |
| **H373** | Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas. |
| **H314** | Provoca quemaduras graves en la piel y lesiones oculares graves. |
| **H318** | Provoca lesiones oculares graves. |
| **H319** | Provoca irritación ocular grave. |
| **H315** | Provoca irritación cutánea. |
| **H335** | Puede irritar las vías respiratorias. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **H400** | Muy tóxico para los organismos acuáticos. |
| **H410** | Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos. |
| **H412** | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |
| **EUH071** | Corrosivo para las vías respiratorias. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico
- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos
- REACH: Reglamento (CE) 1907/2006
- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral
- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

BIBLIOGRAFÍA GENERAL:
1. Reglamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)

**SECCIÓN 16. Otra información** ... / >>

6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)
8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
10. Reglamento (UE) 2015/1221 del Parlamento Europeo (VII Atp. CLP)
11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
13. Reglamento (UE) 2017/776 (X Atp. CLP)
14. Reglamento (UE) 2018/669 (XI Atp. CLP)
15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
19. Reglamento delegado (UE) 2020/1182 (XV Atp. CLP)
20. Reglamento delegado (UE) 2021/643 (XVI Atp. CLP)
21. Reglamento delegado (UE) 2021/849 (XVII Atp. CLP)
22. Reglamento delegado (UE) 2022/692 (XVIII Atp. CLP)
23. Reglamento delegado (UE) 2023/707
24. Reglamento delegado (UE) 2023/1434 (XIX Atp. CLP)
25. Reglamento delegado (UE) 2023/1435 (XX Atp. CLP)
26. Reglamento delegado (UE) 2024/197 (XXI Atp. CLP)
27. Reglamento delegado (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.
Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

Modificaciones con respecto a la revisión precedente:
Han sido realizadas variaciones en las siguientes secciones:
03 / 08 / 09 / 11 / 12 / 13.

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

Código: **TT49L0116**
Denominación **TINTA L 0116**

UFI : **QFK5-E1A5-400D-Y7QX**

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Producto de pintura** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

Razón social: **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Dirección: **Via Bedeschi, 25**
Localidad y Estado: **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

dirección electrónica de la persona competente,
responsable de la ficha de datos de seguridad **gianluca.cerina@icro.it**

Proveedor: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia**

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Lesiones oculares graves, categoría 1 | H318 | Provoca lesiones oculares graves. |
| Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 3 | H412 | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro:



Palabras de advertencia: Peligro

## SECCIÓN 2. Identificación de los peligros ... / >>

Indicaciones de peligro:

| | |
|---|---|
| **H318** | Provoca lesiones oculares graves. |
| **H412** | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH208** | Contiene: 2-METIL-2H-ISOTIAZOL-3-ONA<br>MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN<br>C.I. REACTIVE BROWN 11<br>ALLÁ. NEGRO REACTIVO 8 Cr<br>Puede provocar una reacción alérgica. |

Consejos de prudencia:

| | |
|---|---|
| **P305+P351+P338** | EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado. |
| **P280** | Llevar gafas / máscara de protección. |
| **P310** | Llame inmediatamente a un CENTRO DE TOXICOLOGÍA oa un médico. |
| **P273** | Evitar su liberación al medio ambiente. |

**Contiene:** 4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

Producto no destinado a los usos previstos por la Directiva 2004/42/CE.

### 2.3. Otros peligros

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

El producto no contiene sustancias con propiedades de alteración del sistema endocrino en concentración ≥ 0,1%.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.2. Mezclas

Contiene:

| Identificación | | x = Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|---|
| **4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL** | | | |
| *INDEX* | | 3,5 ≤ x < 4 | **Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318** |
| *CE* | *218-760-9* | | **LD50 Oral: 1053 mg/kg** |
| *CAS* | *2226-96-2* | | |
| *Reg. REACH* | *01-2119968566-20-XXXX* | | |
| **ÓXIDO DE CINC** | | | |
| *INDEX* | *030-013-00-7* | 0,5 ≤ x < 1 | **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *CE* | *215-222-5* | | |
| *CAS* | *1314-13-2* | | |
| *Reg. REACH* | *01-2119463881-XXXX* | | |
| **ALLÁ. NEGRO REACTIVO 8 Cr** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Skin Sens. 1 H317** |
| *CE* | *279-317-3* | | |
| *CAS* | *79828-43-6* | | |
| *Reg. REACH* | *01-2119979578-12-XXXX* | | |
| **C.I. REACTIVE BROWN 11** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | **Skin Sens. 1 H317** |
| *CE* | *274-352-0* | | |
| *CAS* | *70161-16-9* | | |
| **1-METOXI-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 0,1 ≤ x < 0,15 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *CE* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *Reg. REACH* | *01-2119457435-XXXX* | | |
| **DIPROPILENGLICOL MONOMETIL ÉTER** | | | |
| *INDEX* | | 0,05 ≤ x < 0,09 | **Sustancia para la que exista un límite de exposición comunitario en el lugar de trabajo.** |
| *CE* | *252-104-2* | | |
| *CAS* | *34590-94-8* | | |
| *Reg. REACH* | *01-2119450011-XXXX* | | |

## SECCIÓN 3. Composición/información sobre los componentes ... / >>

**MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN**

| | | | |
|---|---|---|---|
| *INDEX* | *613-167-00-5* | 0 < x < 0,0015 | **Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Nota de clasificación según el anexo VI del Reglamento CLP: B** |
| *CE* | *911-418-6* | | **Skin Corr. 1B H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1 H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,6% - < 0,6%** |
| *CAS* | *55965-84-9* | | **ETA Oral: 100 mg/kg, ETA Cutánea: 50,001 mg/kg, ETA Inhalación nieblas/polvos: 0,051 mg/l** |
| *Reg. REACH* | *01-2120764691-XXXX* | | |

**2-METIL-2H-ISOTIAZOL-3-ONA**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,0015 | **Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH071** |
| *CE* | *220-239-6* | | **Skin Sens. 1 H317: ≥ 0,0015%** |
| *CAS* | *2682-20-4* | | **LD50 Oral: >120 mg/kg, LD50 Cutánea: >242 mg/kg, ETA Inhalación nieblas/polvos: 0,051 mg/l** |

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Quite al accidentado las eventuales lentes de contacto, si la situación permite realizar esta operación fácilmente. Lave inmediatamente con abundante agua durante al menos 15 minutos, abriendo bien los párpados. Consulte inmediatamente a un médico.
PIEL: Quitar las prendas contaminadas. Lave inmediatamente con abundante agua corriente (y, si es posible, con jabón). Consultar a un médico. Evite ulteriores contactos con las prendas contaminadas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consulte inmediatamente a un médico.
INHALACIÓN: Lleve al sujeto al aire libre, lejos del lugar del accidente. Consulte inmediatamente a un médico.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se remite a la sección 8.

### 4.2. Principales síntomas y efectos, agudos y retardados

No hay información específica sobre síntomas y efectos provocados por el producto.

EFECTOS RETARDADOS: Sobre la base de los datos disponibles, no se conocen casos de efectos retardados después de la exposición a este producto.

### 4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente

Llame inmediatamente a un CENTRO DE TOXICOLOGÍA oa un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

### 5.1. Medios de extinción

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los tradicionales: anhídrido carbónico, espuma, polvos y agua nebulizada.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
Ninguno en particular.

### 5.2. Peligros específicos derivados de la sustancia o la mezcla

**SECCIÓN 5. Medidas de lucha contra incendios** ... / >>

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Evite respirar los productos de la combustión.

**5.3. Recomendaciones para el personal de lucha contra incendios**

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

**6.1. Precauciones personales, equipo de protección y procedimientos de emergencia**

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

**6.2. Precauciones relativas al medio ambiente**

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

**6.3. Métodos y material de contención y de limpieza**

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las disposiciones del punto 13.

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

**7.1. Precauciones para una manipulación segura**

Manipule el producto después de consultar todas las demás secciones de esta ficha de seguridad. Evite la dispersión del producto en el ambiente. No coma, beba ni fume durante el uso. Quítese las prendas contaminadas y los dispositivos de protección antes de acceder a la zona destinada a comer.

**7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

Conserve el producto solamente en el envase original. Conserve los recipientes cerrados, en un lugar bien ventilado, protegidos de la acción directa de los rayos del sol. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

**7.3. Usos específicos finales**

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

**8.1. Parámetros de control**

Referencias normativas:

| | | |
|---|---|---|
| ALB | Shqipëria | VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES “PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË” |
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.) |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

| | | |
|---|---|---|
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe |
| DNK | Danmark | BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2024 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid 2024 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" Oficiālāās publikāācijas Nr.: 2024/65.2 |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55 |
| NLD | Nederland | Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431 |
| PRT | Portugal | Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön |
| SVK | Slovensko | 121_2024 Z. z. Nariadenie vlády o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym, mutagénnym alebo reprodukčne toxickým faktorom pri práci |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024 |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | ACGIH | ACGIH 2025 |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### HEXADECIL DIMETILAMINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00026 | mg/l |
| Valor de referencia en agua marina | 0,00003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,25 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,125 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00026 | mg/l |
| Valor de referencia para los microorganismos STP | 0,13 | mg/l |
| Valor de referencia para el medio terrestre | 1 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | | | | | 0,500 mg/kg bw/d |
| Inhalación | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

### NEGRO DE CARBONO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 3,5 | | | | |
| VLEP | FRA | 3,5 | | | | |
| VLEP | ITA | 3 | | | | |
| WEL | GBR | 3,5 | | | | |
| ACGIH | | 3 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 50 | mg/l |
| Valor de referencia en agua marina | | |
| Valor de referencia para sedimentos en agua dulce | NPI | |
| Valor de referencia para sedimentos en agua marina | NPI | |
| Valor de referencia para el agua, liberación intermitente | | |
| Valor de referencia para los microorganismos STP | VND | |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | NPI | |
| Valor de referencia para el medio terrestre | NPI | |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Inhalación | | | | 0,060 mg/m3 | | | | 1 mg/m3 |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | ITA | 10 | | | | INHAL |
| VLEP | ITA | 3 | | | | RESPIR |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,03 | mg/l |
| Valor de referencia en agua marina | 0,003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,126 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0169 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,54 | mg/l |
| Valor de referencia para los microorganismos STP | 430 | mg/l |
| Valor de referencia para el medio terrestre | 0,031 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 4 mg/kg/d | | 0,2 mg/kg/d | | | | |
| Inhalación | | 7 mg/m3 | | 0,3 mg/m3 | | | | 1,2 mg/m3 |
| Dérmica | | 4 mg/kg | | 0,2 mg/kg | | 8 mg/kg | | 0,3 mg/kg/bw |

### 2-METIL-2H-ISOTIAZOL-3-ONA

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00339 | mg/l |
| Valor de referencia en agua marina | 0,00339 | mg/l |
| Valor de referencia para sedimentos en agua dulce | NEA | |
| Valor de referencia para sedimentos en agua marina | NPI | |
| Valor de referencia para el agua, liberación intermitente | 0,0039 | mg/l |
| Valor de referencia para los microorganismos STP | 0,23 | mg/l |
| Valor de referencia para el medio terrestre | 0,0471 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 0,053 mg/kg bw/d | | 0,027 mg/kg bw/d | | | | |
| Inhalación | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI |
| Dérmica | | NPI | NPI | NPI | | NPI | NPI | NPI |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00339 | mg/l |
| Valor de referencia en agua marina | 0,00339 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,027 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,027 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00339 | mg/l |
| Valor de referencia para los microorganismos STP | 0,23 | mg/l |
| Valor de referencia para el medio terrestre | 0,01 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 0,11 mg/kg bw/d | | 0,09 mg/kg bw/d | | | | |
| Inhalación | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

### ALQUIL (C16-18) DIMETILAMINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00026 | mg/l |
| Valor de referencia en agua marina | 0,00003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,25 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,125 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00026 | mg/l |
| Valor de referencia para los microorganismos STP | 0,13 | mg/l |
| Valor de referencia para el medio terrestre | 1 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 0,500 mg/kg bw/d | | | | |
| Inhalación | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

### ALQUIL (C12-16) DIMETILAMINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00026 | mg/l |
| Valor de referencia en agua marina | 0,00003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,25 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,125 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00026 | mg/l |
| Valor de referencia para los microorganismos STP | 0,13 | mg/l |
| Valor de referencia para el medio terrestre | 1 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | | | | | 0,500 mg/kg bw/d |
| Inhalación | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### ALLÁ. NEGRO REACTIVO 8 Cr

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0782 | mg/l |
| Valor de referencia en agua marina | 0,0078 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,2815 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,02815 | mg/kg |
| Valor de referencia para los microorganismos STP | 4 | mg/l |
| Valor de referencia para el medio terrestre | 0,00104 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 2,1 mg/kg bw/d | | | | |
| Inhalación | | | | 14,6 mg/m3 | | | | 29 mg/m3 |
| Dérmica | | | | 2,1 mg/kg bw/d | | | | 4,17 mg/kg bw/d |

### ALQUIL (C12-14) DIMETILAMINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00026 | mg/l |
| Valor de referencia en agua marina | 0,00003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,25 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,125 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00026 | mg/l |
| Valor de referencia para los microorganismos STP | 0,13 | mg/l |
| Valor de referencia para el medio terrestre | 1 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | | | | | 0,500 mg/kg bw/d |
| Inhalación | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

### C.I. PIGMENTO AMARILLO 83

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | |
|---|---|
| Valor de referencia en agua dulce | NPI |
| Valor de referencia en agua marina | NPI |
| Valor de referencia para sedimentos en agua dulce | NPI |
| Valor de referencia para sedimentos en agua marina | NPI |
| Valor de referencia para el agua, liberación intermitente | NPI |
| Valor de referencia para los microorganismos STP | NPI |
| Valor de referencia para el medio terrestre | NPI |
| Valor de referencia para la atmósfera | NPI |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | NPI | 3 mg/m3 | NPI | 3 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### DIPROPILENGLICOL MONOMETIL ÉTER

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 308 | 50 | | | PIEL | |
| TLV | BGR | 308 | 50 | | | PIEL | |
| TLV | CZE | 270 | 43,8 | 550 | 89,3 | PIEL | |
| AGW | DEU | 310 | 50 | 310 | 50 | | 11 |
| MAK | DEU | 310 | 50 | 310 | 50 | | |
| TLV | DNK | 309 | 50 | 618 | 100 | PIEL | E |
| VLA | ESP | 308 | 50 | | | PIEL | |
| TLV | EST | 308 | 50 | | | PIEL | |
| VLEP | FRA | 308 | 50 | | | PIEL | |
| TLV | GRC | 600 | 100 | 900 | 150 | | |
| AK | HUN | 308 | 50 | | | | |
| GVI/KGVI | HRV | 308 | 50 | | | PIEL | |
| VLEP | ITA | 308 | 50 | | | PIEL | |
| RV | LVA | 308 | 50 | | | PIEL | |
| TLV | NOR | 300 | 50 | | | PIEL | |
| TGG | NLD | 300 | | | | | |
| VLE | PRT | 308 | 50 | | | PIEL | |
| NDS/NDSCh | POL | 240 | | 480 | | PIEL | |
| TLV | ROU | 308 | 50 | | | PIEL | |
| NGV/KGV | SWE | 300 | 50 | 450 (C) | 75 (C) | PIEL | |
| NPEL | SVK | 308 | 50 | | | PIEL | |
| MV | SVN | 308 | 50 | 308 | 50 | PIEL | |
| ESD | TUR | 308 | 50 | | | PIEL | |
| WEL | GBR | 308 | 50 | | | PIEL | |
| OEL | EU | 308 | 50 | | | PIEL | |
| ACGIH | | | 50 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 19 | mg/l |
| Valor de referencia en agua marina | 1,9 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 70,2 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 7,02 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 190 | mg/l |
| Valor de referencia para los microorganismos STP | 4168 | mg/l |
| Valor de referencia para el medio terrestre | 2,74 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 36 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 37,2 mg/m3 | NPI | NPI | NPI | 308 mg/m3 |
| Dérmica | NPI | NPI | NPI | 121 mg/kg bw/d | NPI | NPI | NPI | 283 mg/kg bw/d |

### MASA DE REACCIÓN DE 5-CLORO-2- METIL-2H-ISOTIAZOL-3-ONA Y 2-METIL-2H-ISOTIAZOL-3-ONA (3:1)

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| MAK | DEU | 0,2 | | 0,4 | | INHAL |
| NDS/NDSCh | POL | 0,2 | | 0,4 | | PIEL |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**2-DIMETILAMINOETANOL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| GVI/KGVI | HRV | 7,4 | 2 | 22 | 6 | |
| RV | LVA | 5 | | | | |
| ПДК | RUS | | | 5 | | п |
| WEL | GBR | 7,4 | 2 | 22 | 6 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0661 | mg/l |
| Valor de referencia en agua marina | 0,004 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,246 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,015 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,661 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 0,01 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,148 mg/kg/d | | | | |
| Inhalación | NPI | NPI | NPI | 0,43755 mg/m3 | 13,53 mg/m3 | 5,28 mg/m3 | 1,76 mg/m3 | 1,76 mg/m3 |
| Dérmica | NPI | NPI | NPI | NPI | 0,100 mg/cm2 | 1,2 mg/kg | | 0,25 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 1-METOXI-2-PROPANOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 375 | 100 | 568 | 150 | PIEL | |
| TLV | BGR | 375 | 100 | 568 | 150 | PIEL | |
| TLV | CZE | 270 | 72,09 | 550 | 146,84 | PIEL | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | PIEL | E |
| VLA | ESP | 375 | 100 | 568 | 150 | PIEL | |
| TLV | EST | 375 | 100 | 568 | 150 | PIEL | |
| VLEP | FRA | 188 | 50 | 375 | 100 | PIEL | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | PIEL | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | PIEL | |
| RV | LVA | 375 | 100 | 568 | 150 | PIEL | |
| TLV | NOR | 180 | 50 | | | PIEL | |
| TGG | NLD | 375 | | 563 | | PIEL | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | PIEL | |
| TLV | ROU | 375 | 100 | 568 | 150 | PIEL | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | PIEL | |
| NPEL | SVK | 375 | 100 | 568 | 150 | PIEL | |
| MV | SVN | 375 | 100 | 568 | 150 | PIEL | |
| ESD | TUR | 375 | 100 | 568 | 150 | PIEL | |
| WEL | GBR | 375 | 100 | 560 | 150 | PIEL | |
| OEL | EU | 375 | 100 | 568 | 150 | PIEL | |
| ACGIH | | 184 | 50 | 368 | 100 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10 | mg/l |
| Valor de referencia en agua marina | 1 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 52,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 5,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 100 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 4,59 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Dérmica | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ÓXIDO DE CINC**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 5 | | 10 | | като цинк |
| TLV | CZE | 2 | | 5 | | Jako Zn |
| MAK | DEU | 2 | | 4 | | INHAL |
| MAK | DEU | 0,1 | | 0,4 | | RESPIR |
| TLV | DNK | 4 | | 8 | | Som Zn |
| VLA | ESP | 2 | | 10 | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 5 | | | | |
| VLEP | FRA | 10 | | | | RESPIR |
| TLV | GRC | 5 | | 10 | | |
| AK | HUN | 5 | | | | |
| GVI/KGVI | HRV | 2 | | 10 | | RESPIR |
| RV | LVA | 0,5 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 5 | | 10 | | INHAL Na Zn |
| TLV | ROU | 5 | | 10 | | Fumuri |
| ПДК | RUS | 0,5 | | 1,5 | | a |
| NGV/KGV | SWE | 5 | | | | |
| NPEL | SVK | 1 | | 1 | | RESPIR |
| MV | SVN | 5 | | 20 | | RESPIR |
| ACGIH | | 2 | | 10 | | RESPIR |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0144 | mg/l |
| Valor de referencia en agua marina | 0,0072 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 146,9 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 162,2 | mg/kg |
| Valor de referencia para los microorganismos STP | 0,1 | mg/l |
| Valor de referencia para el medio terrestre | 83,1 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
Durante la elección de los equipos protectores personales pedir consejo a los proveedores de sustancias químicas.
Los dispositivos de protección individual deben ser conformes a las normativas vigentes y deberán llevar el marcado CE.
Prever un sistema para el lavado ocular y una ducha de emergencia.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.
PROTECCIÓN DE LA PIEL
Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría I (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

trabajador. Se aconseja llevar una mascarilla con filtro de tipo B.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.

CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.
No verter sin control los residuos del producto en los alcantarillados ni en los cursos de agua.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | marrón | | |
| Olor | característico | | |
| Umbral olfativo | no aplicable | | |
| Punto de fusión / punto de congelación | 0 | °C | |
| Punto inicial de ebullición | 100 | °C | |
| Intervalo de ebullición | no aplicable | | |
| Inflamabilidad | no aplicable | | |
| Límites inferior de explosividad | no aplicable | | |
| Límites superior de explosividad | no aplicable | | |
| Punto de inflamación | no aplicable | | |
| Temperatura de auto-inflamación | no aplicable | | |
| Temperatura de descomposición | no aplicable | | |
| pH | 7 | | |
| Viscosidad cinemática | no disponible | | |
| Viscosidad dinámica | 30.000 cPs | | |
| Solubilidad | soluble en agua | | |
| Coeficiente de reparto n-octanol/agua | no aplicable | | |
| Presión de vapor | no determinado | | |
| Densidad y/o densidad relativa | 1 | g/cm3 | Temperatura: 20 °C |
| Densidad de vapor relativa | no aplicable | | |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | |
|---|---|---|
| Tasa de evaporación | no determinado | |
| VOC (Directiva 2010/75/UE) | 0,20 % - 1,96 | gr/litro |
| Propiedades explosivas | no aplicable | |
| Propiedades comburentes | no aplicable | |

## SECCIÓN 10. Estabilidad y reactividad

### 10.1. Reactividad

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

DIPROPILENGLICOL MONOMETIL ÉTER
Forma peróxidos con: aire.
1-METOXI-2-PROPANOL
Disuelve diferentes materiales plásticos.Estable en las condiciones normales de uso y almacenamiento.
Absorbe y se disuelve en agua y en solventes orgánicos. Con el aire, puede formar lentamente peróxidos explosivos.

## SECCIÓN 10. Estabilidad y reactividad ... / >>

**10.2. Estabilidad química**

El producto es estable en las condiciones normales de uso y almacenamiento.

**10.3. Posibilidad de reacciones peligrosas**

En condiciones de uso y almacenamiento normales, no se prevén reacciones peligrosas.

DIPROPILENGLICOL MONOMETIL ÉTER
Puede reaccionar violentamente con: agentes oxidantes fuertes.
1-METOXI-2-PROPANOL
Puede reaccionar peligrosamente con: agentes oxidantes fuertes,ácidos fuertes.

**10.4. Condiciones que deben evitarse**

Ninguna en particular. De todos modos, aténgase a las precauciones usuales para los productos químicos.

DIPROPILENGLICOL MONOMETIL ÉTER
Evitar la exposición a: fuentes de calor.Posibilidad de explosión.
1-METOXI-2-PROPANOL
Evitar la exposición a: aire.

**10.5. Materiales incompatibles**

1-METOXI-2-PROPANOL
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.

**10.6. Productos de descomposición peligrosos**

Información no disponible.

## SECCIÓN 11. Información toxicológica

En ausencia de datos toxicológicos experimentales sobre el producto, los eventuales peligros para la salud han sido evaluados en base a las propiedades de las sustancias contenidas, según los criterios previstos por la normativa de referencia para su clasificación.
Por lo tanto, se debe considerar la concentración de cada sustancia peligrosa eventualmente citada en la secc. 3, para evaluar los efectos toxicológicos derivados de la exposición al producto.

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

Información no disponible.

Información sobre posibles vías de exposición

1-METOXI-2-PROPANOL
TRABAJADORES: inhalación; contacto con la piel.
POBLACIÓN: ingestión de alimentos o de agua contaminados; inhalación de aire ambiente; contacto con la piel de productos que contienen la sustancia.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

1-METOXI-2-PROPANOL
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto. Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre.

Efectos interactivos

Información no disponible.

TOXICIDAD AGUDA

| | |
|---|---|
| ETA (Inhalación) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Oral) de la mezcla: | >2000 mg/kg |
| ETA (Cutánea) de la mezcla: | No clasificado (ningún componente relevante) |

## SECCIÓN 11. Información toxicológica ... / >>

4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): 1053 mg/kg Rat

ÓXIDO DE CINC
LD50 (Cutánea): 2000 mg/kg Rat
LD50 (Oral): 2000 mg/kg Rat
LC50 (Inhalación gases): 1,79 ppm/4h Rat

ALLÁ. NEGRO REACTIVO 8 Cr
LD50 (Oral): > 5000 mg/kg Rat

1-METOXI-2-PROPANOL
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalación vapores): > 6000 ppm/6h Mouse

DIPROPILENGLICOL MONOMETIL ÉTER
LD50 (Cutánea): > 9510 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalación vapores): > 275 ppm/7h Rat

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
LD50 (Cutánea): 600 mg/kg Rat
LD50 (Oral): 457 mg/kg Rat
LC50 (Inhalación vapores): 0,00123 mg/l/4h Rat

2-METIL-2H-ISOTIAZOL-3-ONA
LD50 (Cutánea): > 242 mg/kg Rat
LD50 (Oral): > 120 mg/kg Rat
LC50 (Inhalación vapores): > 100 mg/m3 Rat

CORROSIÓN O IRRITACIÓN CUTÁNEAS

No responde a los criterios de clasificación para esta clase de peligro

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

Provoca lesiones oculares graves

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

Puede provocar una reacción alérgica.
Contiene:
2-METIL-2H-ISOTIAZOL-3-ONA
MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
C.I. REACTIVE BROWN 11
ALLÁ. NEGRO REACTIVO 8 Cr

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

No responde a los criterios de clasificación para esta clase de peligro

## SECCIÓN 11. Información toxicológica ... / >>

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

**11.2. Información sobre otros peligros**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

El producto debe ser considerado peligroso para el medio ambiente y es nocivo para los organismos acuáticos. Provocar, a largo plazo, efectos negativos en el ambiente acuático.

**12.1. Toxicidad**

| | |
|---|---|
| 4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL | |
| LC50 - Peces | 545 mg/l/96h Brachydanio rerio |
| EC50 - Crustáceos | 54 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 1038 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica crustáceos | 1,5 mg/l Daphnia magna |
| ÓXIDO DE CINC | |
| LC50 - Peces | 0,102 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | 105 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 0,022 mg/l/72h Pseudokirchneriella subcapitata |
| EC10 Algas / Plantas Acuáticas | 1,31 mg/l/7d |
| NOEC crónica peces | 0,53 mg/l |
| NOEC crónica algas / plantas acuáticas | 0,024 mg/l |
| ALLÁ. NEGRO REACTIVO 8 Cr | |
| EC50 - Algas / Plantas Acuáticas | 78,2 mg/l/72h |
| NOEC crónica algas / plantas acuáticas | 3,2 mg/l |
| 1-METOXI-2-PROPANOL | |
| LC50 - Peces | < 20800 mg/l/96h pimephales promelas |
| EC50 - Crustáceos | > 21100 mg/l/48h Daphnia |
| NOEC crónica peces | < 4640 mg/l/96h |
| NOEC crónica algas / plantas acuáticas | > 1000 mg/l/7d selenastrum capricornutum |
| DIPROPILENGLICOL MONOMETIL ÉTER | |
| LC50 - Peces | > 1000 mg/l/96h Poecillia reticulata |
| EC50 - Crustáceos | 1919 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 969 mg/l/72h Selenastrum capricornutum |
| NOEC crónica crustáceos | 0,5 mg/l/22d |
| MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN | |
| EC50 - Algas / Plantas Acuáticas | 0,037 mg/l/72h Selenastrum capricornutum |
| NOEC crónica algas / plantas acuáticas | 0,0035 mg/l |
| 2-METIL-2H-ISOTIAZOL-3-ONA | |
| LC50 - Peces | > 4,77 mg/l/96h |
| EC50 - Crustáceos | 1,6 mg/l/48h |
| NOEC crónica peces | > 2,1 mg/l/33d |
| NOEC crónica crustáceos | > 0,0442 mg/l/21d |
| NOEC crónica algas / plantas acuáticas | > 10 mg/l/96h |

**12.2. Persistencia y degradabilidad**

| | |
|---|---|
| ÓXIDO DE CINC | |
| Solubilidad en agua | 2,9 mg/l |
| NO rápidamente degradable | |
| ALLÁ. NEGRO REACTIVO 8 Cr | |
| Solubilidad en agua | 433 g/l @ 20 °C |

## SECCIÓN 12. Información ecológica ... / >>

1-METOXI-2-PROPANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

DIPROPILENGLICOL MONOMETIL ÉTER
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
Solubilidad en agua 3000 g/l 20 °C
Inherentemente degradable

2-METIL-2H-ISOTIAZOL-3-ONA
Solubilidad en agua 489 g/l @ 20°C

### 12.3. Potencial de bioacumulación

ÓXIDO DE CINC
BCF > 175

ALLÁ. NEGRO REACTIVO 8 Cr
Coeficiente de distribución: n-octanol/agua -6,29 @ 20 °C

1-METOXI-2-PROPANOL
Coeficiente de distribución: n-octanol/agua < 1

DIPROPILENGLICOL MONOMETIL ÉTER
Coeficiente de distribución: n-octanol/agua 0,0043

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
Coeficiente de distribución: n-octanol/agua 0,75

2-METIL-2H-ISOTIAZOL-3-ONA
Coeficiente de distribución: n-octanol/agua -0,486 @ 20°C

### 12.4. Movilidad en el suelo

Información no disponible.

### 12.5. Resultados de la valoración PBT y mPmB

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

### 12.6. Propiedades de alteración endocrina

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

### 12.7. Otros efectos adversos

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

### 13.1. Métodos para el tratamiento de residuos

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
La gestión de los residuos derivados de la utilización o dispersión de este producto debe organizarse de acuerdo con las normas de seguridad laboral. Véase la sección 8 para conocer la posible necesidad de EPI.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

El producto no debe ser considerada peligrosa según las disposiciones vigentes en lo que concierne al transporte de mercancías peligrosas por carretera (A.D.R.), ferrocarril (RID), mar (IMDG Code) y vía aérea (IATA).

**14.1. Número ONU o número ID**

no aplicable

**14.2. Designación oficial de transporte de las Naciones Unidas**

no aplicable

**14.3. Clase(s) de peligro para el transporte**

no aplicable

**14.4. Grupo de embalaje**

no aplicable

**14.5. Peligros para el medio ambiente**

no aplicable

**14.6. Precauciones particulares para los usuarios**

no aplicable

**14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI**

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

**15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

Categoría Seveso - Directivo 2012/18/UE: Ninguna

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos
no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

## SECCIÓN 15. Información reglamentaria ... / >>

Controles sanitarios
Los trabajadores expuestos a este agente químico no deben ser sometidos a la vigilancia sanitaria, siempre y cuando los resultados de la evaluación de los riesgos demuestren que existe sólo un moderado riesgo para la seguridad y la salud de los trabajadores y que las medidas previstas por la directiva 98/24/CE estén siendo respetadas y sean suficientes para reducir el riesgo.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 1: Poco peligroso para las aguas.

**15.2. Evaluación de la seguridad química**

No se ha realizado una evaluación de seguridad química para la mezcla/las sustancias indicadas en la sección 3.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 3** | Líquidos inflamables, categoría 3 |
| **Acute Tox. 2** | Toxicidad aguda, categoría 2 |
| **Acute Tox. 3** | Toxicidad aguda, categoría 3 |
| **Acute Tox. 4** | Toxicidad aguda, categoría 4 |
| **STOT RE 2** | Toxicidad específica en determinados órganos - exposiciones repetidas, categoría 2 |
| **Skin Corr. 1B** | Corrosión cutáneas, categoría 1B |
| **Skin Corr. 1C** | Corrosión cutáneas, categoría 1C |
| **Eye Dam. 1** | Lesiones oculares graves, categoría 1 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **Skin Irrit. 2** | Irritación cutáneas, categoría 2 |
| **Skin Sens. 1** | Sensibilización cutánea, categoría 1 |
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **Aquatic Acute 1** | Peligroso para el medio ambiente acuático, toxicidad aguda, categoría 1 |
| **Aquatic Chronic 1** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 1 |
| **Aquatic Chronic 3** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 3 |
| **H226** | Líquidos y vapores inflamables. |
| **H310** | Mortal en contacto con la piel. |
| **H330** | Mortal en caso de inhalación. |
| **H301** | Tóxico en caso de ingestión. |
| **H311** | Tóxico en contacto con la piel. |
| **H302** | Nocivo en caso de ingestión. |
| **H373** | Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas. |
| **H314** | Provoca quemaduras graves en la piel y lesiones oculares graves. |
| **H318** | Provoca lesiones oculares graves. |
| **H319** | Provoca irritación ocular grave. |
| **H315** | Provoca irritación cutánea. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **H400** | Muy tóxico para los organismos acuáticos. |
| **H410** | Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos. |
| **H412** | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH071** | Corrosivo para las vías respiratorias. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico

## SECCIÓN 16. Otra información ... / >>

- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos
- REACH: Reglamento (CE) 1907/2006
- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral
- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

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1. Reglamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)
6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)
8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
10. Reglamento (UE) 2015/1221 del Parlamento Europeo (VII Atp. CLP)
11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
13. Reglamento (UE) 2017/776 (X Atp. CLP)
14. Reglamento (UE) 2018/669 (XI Atp. CLP)
15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
19. Reglamento delegado (UE) 2020/1182 (XV Atp. CLP)
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27. Reglamento delegado (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.

## SECCIÓN 16. Otra información ... / >>

Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

Modificaciones con respecto a la revisión precedente:
Han sido realizadas variaciones en las siguientes secciones:
01 / 03 / 08 / 11 / 12.

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

Código: **TT49L1224**
Denominación **TINTA GRIGIO WARM LATI 1224**

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Aditivo para productos de pintura.** | ✓ | - | - |
| **Aditivo de pintura para la producción de piezas de interior de automóviles** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

Razón social: **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Dirección: **Via Bedeschi, 25**
Localidad y Estado: **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

dirección electrónica de la persona competente,
responsable de la ficha de datos de seguridad **gianluca.cerina@icro.it**

Proveedor: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia**

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 3 | H412 | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro: --

Palabras de advertencia: --

Indicaciones de peligro:

**H412** Nocivo para los organismos acuáticos, con efectos nocivos duraderos.
**EUH208** Contiene: 2-METIL-2H-ISOTIAZOL-3-ONA
MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
C.I. REACTIVE BROWN 11
ALLÁ. NEGRO REACTIVO 8 Cr
Puede provocar una reacción alérgica.

## SECCIÓN 2. Identificación de los peligros ... / >>

Consejos de prudencia:

**P273** Evitar su liberación al medio ambiente.

Producto no destinado a los usos previstos por la Directiva 2004/42/CE.

### 2.3. Otros peligros

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

El producto no contiene sustancias con propiedades de alteración del sistema endocrino en concentración ≥ 0,1%.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.2. Mezclas

Contiene:

| Identificación | | x = Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|---|
| **1-METOXI-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 4,5 ≤ x < 5 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *CE* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *Reg. REACH* | *01-2119457435-XXXX* | | |
| **4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318** |
| *CE* | *218-760-9* | | **ETA Oral: 500 mg/kg** |
| *CAS* | *2226-96-2* | | |
| *Reg. REACH* | *01-2119968566-20-XXXX* | | |
| **DIPROPILENGLICOL MONOMETIL ÉTER** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Sustancia para la que exista un límite de exposición comunitario en el lugar de trabajo.** |
| *CE* | *252-104-2* | | |
| *CAS* | *34590-94-8* | | |
| *Reg. REACH* | *01-2119450011-XXXX* | | |
| **ÓXIDO DE CINC** | | | |
| *INDEX* | *030-013-00-7* | 0,5 ≤ x < 1 | **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *CE* | *215-222-5* | | |
| *CAS* | *1314-13-2* | | |
| *Reg. REACH* | *01-2119463881-XXXX* | | |
| **ALLÁ. NEGRO REACTIVO 8 Cr** | | | |
| *INDEX* | | 0,45 ≤ x < 0,5 | **Skin Sens. 1 H317** |
| *CE* | *279-317-3* | | |
| *CAS* | *79828-43-6* | | |
| *Reg. REACH* | *01-2119979578-12-XXXX* | | |
| **ALUMINIO EN POLVO (ESTABILIZADO)** | | | |
| *INDEX* | *013-002-00-1* | 0,35 ≤ x < 0,4 | **Flam. Sol. 1 H228, Water-react. 2 H261, Nota de clasificación según el anexo VI del Reglamento CLP: T** |
| *CE* | *231-072-3* | | |
| *CAS* | *7429-90-5* | | |
| *Reg. REACH* | *01-2119529243-XXXX* | | |
| **NEGRO DE CARBONO** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | |
| *CE* | *215-609-9* | | |
| *CAS* | *1333-86-4* | | |
| *Reg. REACH* | *01-2119384822-XXXX* | | |
| **C.I. REACTIVE BROWN 11** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | **Skin Sens. 1 H317** |
| *CE* | *274-352-0* | | |
| *CAS* | *70161-16-9* | | |
| **ACEITE DE VASELINA (PETRÓLEO)** | | | |
| *INDEX* | | 0,05 ≤ x < 0,09 | **Asp. Tox. 1 H304** |
| *CE* | *232-455-8* | | |
| *CAS* | *8042-47-5* | | |
| *Reg. REACH* | *01-2119487078-XXXX* | | |

## SECCIÓN 3. Composición/información sobre los componentes ... / >>

**PROPAN-2-OL**
*INDEX* *603-117-00-0* 0,02 ≤ x < 0,06 **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336**
*CE* *200-661-7*
*CAS* *67-63-0*
*Reg. REACH* *01-2119457558-XXXX*

**2 - (2-HEPTADEC-8-ENIL-2-IMIDAZOLIN-1-IL) ETANOL**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, STOT RE 2 H373, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1**
*CE* *202-414-9* **LD50 Oral: 1000 mg/kg**
*CAS* *95-38-5*
*Reg. REACH* *01-2119777867-XXXX*

**C.I. PIGMENTO AMARILLO 83**
*INDEX* 0 < x < 0,03
*CE* *226-939-8*
*CAS* *5567-15-7*

**ÁCIDO OCTILFOSFÓNICO**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, STOT RE 2 H373, Skin Corr. 1B H314, Eye Dam. 1 H318**
*CE* *225-218-5* **ETA Oral: 500 mg/kg**
*CAS* *4724-48-5*
*Reg. REACH* *01-2119970569-XXXX*

**2-DIMETILAMINOETANOL**
*INDEX* *603-047-00-0* 0 < x < 0,03 **Flam. Liq. 3 H226, Acute Tox. 3 H331, Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335**
*CE* *203-542-8* **STOT SE 3 H335: ≥ 5%**
*CAS* *108-01-0* **LD50 Oral: 1182,7 mg/kg, LD50 Cutánea: 1219 mg/kg, LC50 Inhalación vapores: 6 mg/l/4h**
*Reg. REACH* *01-2119492298-XXXX*

**1,2-BENCISOTIAZOL-3(2H)-ONA**
*INDEX* *613-088-00-6* 0 < x < 0,03 **Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1**
*CE* *220-120-9* **Skin Sens. 1 H317: ≥ 0,05%**
*CAS* *2634-33-5* **ETA Oral: 500 mg/kg**
*Reg. REACH* *01-2120761540-XXXX*

**C12 -18-ALQUIL DIMETILAMINA**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
*CE* *269-923-6* **LD50 Oral: 500 mg/kg**
*CAS* *68391-04-8*

**MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN**
*INDEX* *613-167-00-5* 0 < x < 0,0015 **Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Nota de clasificación según el anexo VI del Reglamento CLP: B**
*CE* *911-418-6* **Skin Corr. 1B H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1 H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,6% - < 0,6%**
*CAS* *55965-84-9* **ETA Oral: 100 mg/kg, ETA Cutánea: 50,001 mg/kg, ETA Inhalación nieblas/polvos: 0,051 mg/l**
*Reg. REACH* *01-2120764691-XXXX*

**2-METIL-2H-ISOTIAZOL-3-ONA**
*INDEX* 0 < x < 0,0015 **Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH071**
*CE* *220-239-6* **Skin Sens. 1 H317: ≥ 0,0015%**
*CAS* *2682-20-4* **ETA Oral: 100 mg/kg, ETA Cutánea: 300 mg/kg, ETA Inhalación nieblas/polvos: 0,051 mg/l**

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

No se prevén efectos que requieran medidas especiales de primeros auxilios. Las siguientes son indicaciones prácticas de correcto comportamiento en caso de contacto con un producto químico, incluso si este no es peligroso.
En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Quite al accidentado las eventuales lentes de contacto, si la situación permite realizar esta operación fácilmente. Lave inmediatamente con abundante agua durante al menos 15 minutos, abriendo bien los párpados. Consulte inmediatamente a un médico.

## SECCIÓN 4. Primeros auxilios ... / >>

PIEL: Quitar las prendas contaminadas. Lave inmediatamente con abundante agua corriente (y, si es posible, con jabón). Consultar a un médico. Evite ulteriores contactos con las prendas contaminadas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consulte inmediatamente a un médico.
INHALACIÓN: Lleve al sujeto al aire libre, lejos del lugar del accidente. Consulte inmediatamente a un médico.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se remite a la sección 8.

### 4.2. Principales síntomas y efectos, agudos y retardados

No hay información específica sobre síntomas y efectos provocados por el producto.

EFECTOS RETARDADOS: Sobre la base de los datos disponibles, no se conocen casos de efectos retardados después de la exposición a este producto.

### 4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente

Si aparecen síntomas, ya sean agudos o retardados, consulte a un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

### 5.1. Medios de extinción

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los tradicionales: anhídrido carbónico, espuma, polvos y agua nebulizada.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
Ninguno en particular.

### 5.2. Peligros específicos derivados de la sustancia o la mezcla

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Evite respirar los productos de la combustión.

### 5.3. Recomendaciones para el personal de lucha contra incendios

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

### 6.1. Precauciones personales, equipo de protección y procedimientos de emergencia

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

### 6.2. Precauciones relativas al medio ambiente

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

### 6.3. Métodos y material de contención y de limpieza

**SECCIÓN 6. Medidas en caso de vertido accidental** ... / >>

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las disposiciones del punto 13.

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

**7.1. Precauciones para una manipulación segura**

Mantenga el producto lejos de fuentes de calor, chispas y llamas libres; no fume ni use cerillas o mecheros. Sin una adecuada ventilación, los vapores podrían acumularse en el suelo y, en presencia de una fuente de ignición, incendiarse incluso a distancia, con el peligro de un retorno de llama. Evite la acumulación de cargas electrostáticas. No coma, beba ni fume durante el uso. Quítese las prendas contaminadas y los dispositivos de protección antes de acceder a la zona destinada a comer. Evite la dispersión del producto en el ambiente.

**7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

Conserve el producto solamente en el envase original. Conserve el producto en un lugar fresco y bien ventilado, lejos de fuentes de calor, llamas libres, chispas y otras fuentes de ignición. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

**7.3. Usos específicos finales**

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

**8.1. Parámetros de control**

Referencias normativas:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

| | | |
|---|---|---|
| | | dla zdrowia w środowisku pracy |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | TLV-ACGIH | ACGIH 2025 |

**NEGRO DE CARBONO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 3,5 | | | | |
| VLEP | FRA | 3,5 | | | | |
| VLEP | ITA | 3 | | | | |
| WEL | GBR | 3,5 | | | | |
| TLV-ACGIH | | 3 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 50 | mg/l |
| Valor de referencia en agua marina | | |
| Valor de referencia para sedimentos en agua dulce | NPI | |
| Valor de referencia para sedimentos en agua marina | NPI | |
| Valor de referencia para el agua, liberación intermitente | | |
| Valor de referencia para los microorganismos STP | VND | |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | NPI | |
| Valor de referencia para el medio terrestre | NPI | |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Inhalación | | | | 0,060 mg/m3 | | | | 1 mg/m3 |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | ITA | 10 | | | | INHAL |
| VLEP | ITA | 3 | | | | RESPIR |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,03 | mg/l |
| Valor de referencia en agua marina | 0,003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,126 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0169 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,54 | mg/l |
| Valor de referencia para los microorganismos STP | 430 | mg/l |
| Valor de referencia para el medio terrestre | 0,031 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 4 mg/kg/d | | 0,2 mg/kg/d | | | | |
| Inhalación | | 7 mg/m3 | | 0,3 mg/m3 | | | | 1,2 mg/m3 |
| Dérmica | | 4 mg/kg | | 0,2 mg/kg | | 8 mg/kg | | 0,3 mg/kg/bw |

### 1,2-BENCISOTIAZOL-3(2H)-ONA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00403 | mg/l |
| Valor de referencia en agua marina | 0,00040 3 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,0499 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,499 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00011 | mg/l |
| Valor de referencia para los microorganismos STP | 1,03 | mg/l |
| Valor de referencia para el medio terrestre | 3 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | 1,2 mg/m3 | NPI | NPI | NPI | 6,81 mg/m3 |
| Dérmica | | NPI | | 0,345 mg/kg/d | | NPI | | 0,966 mg/kg/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 2-METIL-2H-ISOTIAZOL-3-ONA

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00339 | mg/l |
| Valor de referencia en agua marina | 0,00339 | mg/l |
| Valor de referencia para sedimentos en agua dulce | NEA | |
| Valor de referencia para sedimentos en agua marina | NPI | |
| Valor de referencia para el agua, liberación intermitente | 0,0039 | mg/l |
| Valor de referencia para los microorganismos STP | 0,23 | mg/l |
| Valor de referencia para el medio terrestre | 0,0471 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 0,053 mg/kg bw/d | | 0,027 mg/kg bw/d | | | | |
| Inhalación | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI |
| Dérmica | | NPI | NPI | NPI | | NPI | NPI | NPI |

### ÁCIDO OCTILFOSFÓNICO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,04 | mg/l |
| Valor de referencia en agua marina | 0,004 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,49 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,049 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,4 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 0,075 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 0,02 mg/kg/bw | | | | |
| Inhalación | | | | 0,071 mg/m3 | | | | 0,14 mg/m3 |
| Dérmica | | | | | | | | 4 mg/kg/bw |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00339 | mg/l |
| Valor de referencia en agua marina | 0,00339 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,027 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,027 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00339 | mg/l |
| Valor de referencia para los microorganismos STP | 0,23 | mg/l |
| Valor de referencia para el medio terrestre | 0,01 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 0,11 mg/kg bw/d | | 0,09 mg/kg bw/d | | | | |
| Inhalación | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

### C12 -18-ALQUIL DIMETILAMINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00026 | mg/l |
| Valor de referencia en agua marina | 0,00003 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,25 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,125 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,00026 | mg/l |
| Valor de referencia para los microorganismos STP | 0,13 | mg/l |
| Valor de referencia para el medio terrestre | 0,841 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,250 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 0,430 mg/m3 | 1 mg/m3 | 5,4 mg/m3 | 1 mg/m3 | 1,8 mg/m3 |
| Dérmica | NPI | NPI | NPI | NPI | | NPI | | NPI |

### ALLÁ. NEGRO REACTIVO 8 Cr

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0782 | mg/l |
| Valor de referencia en agua marina | 0,0078 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,2815 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,02815 | mg/kg |
| Valor de referencia para los microorganismos STP | 4 | mg/l |
| Valor de referencia para el medio terrestre | 0,00104 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 2,1 mg/kg bw/d | | | | |
| Inhalación | | | | 14,6 mg/m3 | | | | 29 mg/m3 |
| Dérmica | | | | 2,1 mg/kg bw/d | | | | 4,17 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### ACEITE DE VASELINA (PETRÓLEO)

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 5 | | 20 | | RESPIR |
| TLV | ROU | 5 | | 10 | | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 25 mg/kg bw/d | | | | |
| Inhalación | | | | 34,78 mg/m3 | | | | 164,56 mg/m3 |
| Dérmica | | | | 93,02 mg/kg bw/d | | | | 217,05 mg/kg bw/d |

### 2 - (2-HEPTADEC-8-ENIL-2-IMIDAZOLIN-1-IL) ETANOL

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,00003 | mg/l |
| Valor de referencia en agua marina | 0,00000 3 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,376 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0376 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,0003 | mg/l |
| Valor de referencia para los microorganismos STP | 0,27 | mg/l |
| Valor de referencia para el medio terrestre | 0,075 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Inhalación | | | | | | 14 mg/m3 | | 0,46 mg/m3 |
| Dérmica | | | | | | 2 mg/kg/bw | | 0,06 mg/kg/bw |

### C.I. PIGMENTO AMARILLO 83

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | |
|---|---|
| Valor de referencia en agua dulce | NPI |
| Valor de referencia en agua marina | NPI |
| Valor de referencia para sedimentos en agua dulce | NPI |
| Valor de referencia para sedimentos en agua marina | NPI |
| Valor de referencia para el agua, liberación intermitente | NPI |
| Valor de referencia para los microorganismos STP | NPI |
| Valor de referencia para el medio terrestre | NPI |
| Valor de referencia para la atmósfera | NPI |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | NPI | 3 mg/m3 | NPI | 3 mg/m3 | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ALUMINIO EN POLVO (ESTABILIZADO)**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 2 | | | | |
| MAK | DEU | 4 | | | | INHAL |
| MAK | DEU | 1,5 | | | | RESPIR |
| TLV | DNK | 5 | | | | |
| TLV | DNK | 2 | | | | RESPIR |
| VLA | ESP | 1 | | | | RESPIR |
| TLV | EST | 10 | | | | kogu tolm |
| TLV | EST | 4 | | | | RESPIR peentolm |
| VLEP | FRA | 5 | | | | |
| TLV | GRC | 10 | | | | |
| AK | HUN | 1 | | | | RESPIR |
| GVI/KGVI | HRV | 10 | | | | INHAL |
| GVI/KGVI | HRV | 4 | | | | RESPIR |
| RV | LVA | 2 | | | | |
| TLV | NOR | 2 | | | | |
| NDS/NDSCh | POL | 2,5 | | | | INHAL |
| NGV/KGV | SWE | 5 | | | | Som Al, Totaldamm |
| NGV/KGV | SWE | 2 | | | | RESPIR Som Al |
| NPEL | SVK | 4 | | | | INHAL |
| NPEL | SVK | 1,5 | | | | RESPIR |
| WEL | GBR | 10 | | | | INHAL |
| WEL | GBR | 4 | | | | RESPIR |
| TLV-ACGIH | | 1 | 0,9 | | | RESPIR Al |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0749 | mg/l |
| Valor de referencia para los microorganismos STP | 20 | mg/l |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 3,95 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | NPI | NPI | NPI | 3,72 mg/m3 | 3,72 mg/m3 |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NEA |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### DIPROPILENGLICOL MONOMETIL ÉTER

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 308 | 50 | | | PIEL | |
| TLV | CZE | 270 | 43,74 | 550 | 89,1 | PIEL | |
| AGW | DEU | 310 | 50 | 310 | 50 | | 11 |
| MAK | DEU | 310 | 50 | 310 | 50 | | |
| TLV | DNK | 309 | 50 | | | PIEL | E |
| VLA | ESP | 308 | 50 | | | PIEL | |
| TLV | EST | 308 | 50 | | | PIEL | |
| VLEP | FRA | 308 | 50 | | | PIEL | |
| TLV | GRC | 600 | 100 | 900 | 150 | | |
| AK | HUN | 308 | 50 | | | | |
| GVI/KGVI | HRV | 308 | 50 | | | PIEL | |
| VLEP | ITA | 308 | 50 | | | PIEL | |
| RV | LVA | 308 | 50 | | | PIEL | |
| TLV | NOR | 300 | 50 | | | PIEL | |
| TGG | NLD | 300 | | | | | |
| VLE | PRT | 308 | 50 | | | PIEL | |
| NDS/NDSCh | POL | 240 | | 480 | | PIEL | |
| TLV | ROU | 308 | 50 | | | PIEL | |
| NGV/KGV | SWE | 300 | 50 | 450 (C) | 75 (C) | PIEL | |
| NPEL | SVK | 308 | 50 | | | PIEL | |
| MV | SVN | 308 | 50 | | | PIEL | |
| ESD | TUR | 308 | 50 | | | PIEL | |
| WEL | GBR | 308 | 50 | | | PIEL | |
| OEL | EU | 308 | 50 | | | PIEL | |
| TLV-ACGIH | | | 50 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 19 | mg/l |
| Valor de referencia en agua marina | 1,9 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 70,2 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 7,02 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 190 | mg/l |
| Valor de referencia para los microorganismos STP | 4168 | mg/l |
| Valor de referencia para el medio terrestre | 2,74 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 36 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 37,2 mg/m3 | NPI | NPI | NPI | 308 mg/m3 |
| Dérmica | NPI | NPI | NPI | 121 mg/kg bw/d | NPI | NPI | NPI | 283 mg/kg bw/d |

### CLORURO SÓDICO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| RV | LVA | 5 | | | | |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**2-DIMETILAMINOETANOL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| GVI/KGVI | HRV | 7,4 | 2 | 22 | 6 | |
| RV | LVA | 5 | | | | |
| WEL | GBR | 7,4 | 2 | 22 | 6 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0661 | mg/l |
| Valor de referencia en agua marina | 0,004 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,246 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,015 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,661 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 0,01 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,148 mg/kg/d | | | | |
| Inhalación | NPI | NPI | NPI | 0,43755 mg/m3 | 13,53 mg/m3 | 5,28 mg/m3 | 1,76 mg/m3 | 1,76 mg/m3 |
| Dérmica | NPI | NPI | NPI | NPI | 0,100 mg/cm2 | 1,2 mg/kg | | 0,25 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 1-METOXI-2-PROPANOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 375 | 100 | 568 | 150 | PIEL |
| TLV | CZE | 270 | 72,09 | 550 | 146,85 | PIEL |
| AGW | DEU | 370 | 100 | 740 | 200 | |
| MAK | DEU | 370 | 100 | 740 | 200 | |
| TLV | DNK | 185 | 50 | 568 | 150 | PIEL E |
| VLA | ESP | 375 | 100 | 568 | 150 | PIEL |
| TLV | EST | 375 | 100 | 568 | 150 | PIEL |
| VLEP | FRA | 188 | 50 | 375 | 100 | PIEL |
| TLV | GRC | 360 | 100 | 1080 | 300 | |
| AK | HUN | 375 | 100 | 568 | 150 | PIEL |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | |
| VLEP | ITA | 375 | 100 | 568 | 150 | PIEL |
| RV | LVA | 375 | 100 | 568 | 150 | PIEL |
| TLV | NOR | 180 | 50 | | | PIEL |
| TGG | NLD | 375 | | 563 | | PIEL |
| VLE | PRT | 375 | 100 | 568 | 150 | |
| NDS/NDSCh | POL | 180 | | 360 | | PIEL |
| TLV | ROU | 375 | 100 | 568 | 150 | PIEL |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | PIEL |
| NPEL | SVK | 375 | 100 | 568 | 150 | PIEL |
| MV | SVN | 375 | 100 | 568 | 150 | PIEL |
| ESD | TUR | 375 | 100 | 568 | 150 | PIEL |
| WEL | GBR | 375 | 100 | 560 | 150 | PIEL |
| OEL | EU | 375 | 100 | 568 | 150 | PIEL |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10 | mg/l |
| Valor de referencia en agua marina | 1 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 52,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 5,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 100 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 4,59 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Dérmica | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### PROPAN-2-OL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 980 | | 1225 | | |
| TLV | CZE | 500 | 200 | 1000 | 400 | |
| AGW | DEU | 500 | 200 | 1000 | 400 | |
| MAK | DEU | 500 | 200 | 1000 | 400 | |
| TLV | DNK | 490 | 200 | | | |
| VLA | ESP | 500 | 200 | 1000 | 400 | |
| TLV | EST | 350 | 150 | 600 | 250 | |
| VLEP | FRA | | | 980 | 400 | |
| TLV | GRC | 980 | 400 | 1225 | 500 | |
| AK | HUN | 500 | 200 | 1000 | 400 | PIEL |
| GVI/KGVI | HRV | 999 | 400 | 1250 | 500 | |
| RV | LVA | 350 | | 600 | | |
| TLV | NOR | 245 | 100 | | | |
| TGG | NLD | 650 | | | | |
| NDS/NDSCh | POL | 900 | | 1200 | | PIEL |
| TLV | ROU | 200 | 81 | 500 | 203 | |
| NGV/KGV | SWE | 350 | 150 | 600 (C) | 250 (C) | |
| NPEL | SVK | 500 | 200 | 1000 | 400 | |
| MV | SVN | 500 | 200 | 1000 | 400 | |
| ESD | TUR | 980 | 400 | | | |
| WEL | GBR | 999 | 400 | 1250 | 500 | |
| TLV-ACGIH | | 492 | 200 | 983 | 400 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 140,9 | mg/l |
| Valor de referencia en agua marina | 140,9 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 552 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 552 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 140,9 | mg/l |
| Valor de referencia para los microorganismos STP | 2251 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 160 | mg/kg |
| Valor de referencia para el medio terrestre | 28 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 26 mg/kg | | | | |
| Inhalación | | | | 89 mg/m3 | | | | 500 mg/m3 |
| Dérmica | | | | 319 mg/kg | | | | 888 mg/kg |

### SULFATO SÓDICO ANHIDRO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| RV | LVA | 10 | | | | |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ÓXIDO DE CINC**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 5 | | 10 | | като цинк |
| TLV | CZE | 2 | | 5 | | Jako Zn |
| MAK | DEU | 2 | | 4 | | INHAL |
| MAK | DEU | 0,1 | | 0,4 | | RESPIR |
| TLV | DNK | 4 | | | | Som Zn |
| VLA | ESP | 2 | | 10 | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 5 | | | | |
| VLEP | FRA | 10 | | | | RESPIR |
| TLV | GRC | 5 | | 10 | | |
| AK | HUN | 5 | | | | |
| GVI/KGVI | HRV | 2 | | 10 | | RESPIR |
| RV | LVA | 0,5 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 5 | | 10 | | INHAL Na Zn |
| TLV | ROU | 5 | | 10 | | Fumuri |
| NGV/KGV | SWE | 5 | | | | |
| NPEL | SVK | 1 | | 1 | | RESPIR |
| MV | SVN | 5 | | 20 | | RESPIR |
| TLV-ACGIH | | 2 | | 10 | | RESPIR |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0144 | mg/l |
| Valor de referencia en agua marina | 0,0072 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 146,9 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 162,2 | mg/kg |
| Valor de referencia para los microorganismos STP | 0,1 | mg/l |
| Valor de referencia para el medio terrestre | 83,1 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | NPI | | | | |
| Inhalación | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |
| Dérmica | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.
PROTECCIÓN DE LA PIEL
Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría I (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del trabajador. Se aconseja llevar una mascarilla con filtro de tipo A.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.
CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.
No verter sin control los residuos del producto en los alcantarillados ni en los cursos de agua.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | gris | | |
| Olor | característico | | |
| Umbral olfativo | no aplicable | | |
| Punto de fusión / punto de congelación | 0 | °C | |
| Punto inicial de ebullición | 100 | °C | |
| Intervalo de ebullición | no aplicable | | |
| Inflamabilidad | no aplicable | | |
| Límites inferior de explosividad | no aplicable | | |
| Límites superior de explosividad | no aplicable | | |
| Punto de inflamación | no aplicable | | |
| Temperatura de auto-inflamación | no aplicable | | |
| Temperatura de descomposición | no aplicable | | |
| pH | 7 | | |
| Viscosidad cinemática | no determinado | | |
| Solubilidad | soluble en agua | | |
| Coeficiente de reparto n-octanol/agua | no aplicable | | |
| Presión de vapor | no determinado | | |
| Densidad y/o densidad relativa | 1,01 | g/cm3 | Temperatura: 20 °C |
| Densidad de vapor relativa | no aplicable | | |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | | | |
|---|---|---|---|---|
| VOC (Directiva 2010/75/UE) | 5,71 % | - | 57,66 | gr/litro |

## SECCIÓN 10. Estabilidad y reactividad

### 10.1. Reactividad

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

DIPROPILENGLICOL MONOMETIL ÉTER
Forma peróxidos con: aire.
1-METOXI-2-PROPANOL
Disuelve diferentes materiales plásticos.Estable en las condiciones normales de uso y almacenamiento.
Absorbe y se disuelve en agua y en solventes orgánicos. Con el aire, puede formar lentamente peróxidos explosivos.

### 10.2. Estabilidad química

El producto es estable en las condiciones normales de uso y almacenamiento.

### 10.3. Posibilidad de reacciones peligrosas

Los vapores pueden formar mezclas explosivas con el aire.

**SECCIÓN 10. Estabilidad y reactividad** ... / >>

DIPROPILENGLICOL MONOMETIL ÉTER
Puede reaccionar violentamente con: agentes oxidantes fuertes.
1-METOXI-2-PROPANOL
Puede reaccionar peligrosamente con: agentes oxidantes fuertes,ácidos fuertes.

**10.4. Condiciones que deben evitarse**

Evite el recalentamiento. Evite la acumulación de cargas electrostáticas. Evite cualquier fuente de ignición.

DIPROPILENGLICOL MONOMETIL ÉTER
Evitar la exposición a: fuentes de calor.Posibilidad de explosión.
1-METOXI-2-PROPANOL
Evitar la exposición a: aire.

**10.5. Materiales incompatibles**

1-METOXI-2-PROPANOL
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.

**10.6. Productos de descomposición peligrosos**

En caso de descomposición térmica o incendio, se pueden liberar gases y vapores potencialmente perjudiciales para la salud.

## SECCIÓN 11. Información toxicológica

En ausencia de datos toxicológicos experimentales sobre el producto, los eventuales peligros para la salud han sido evaluados en base a las propiedades de las sustancias contenidas, según los criterios previstos por la normativa de referencia para su clasificación.
Por lo tanto, se debe considerar la concentración de cada sustancia peligrosa eventualmente citada en la secc. 3, para evaluar los efectos toxicológicos derivados de la exposición al producto.

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

Información no disponible.

Información sobre posibles vías de exposición

1-METOXI-2-PROPANOL
TRABAJADORES: inhalación; contacto con la piel.
POBLACIÓN: ingestión de alimentos o de agua contaminados; inhalación de aire ambiente; contacto con la piel de productos que contienen la sustancia.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

1-METOXI-2-PROPANOL
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto. Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre.

Efectos interactivos

Información no disponible.

TOXICIDAD AGUDA

| | |
|---|---|
| ETA (Inhalación) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Oral) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Cutánea) de la mezcla: | No clasificado (ningún componente relevante) |

NEGRO DE CARBONO

| | |
|---|---|
| LD50 (Oral): | > 8000 mg/kg Rat |
| LC50 (Inhalación vapores): | 0,0046 mg/l/4h Rat |

4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

| | |
|---|---|
| LD50 (Cutánea): | > 2000 mg/kg Rat |
| LD50 (Oral): | 1053 mg/kg Rat |

## SECCIÓN 11. Información toxicológica ... / >>

1,2-BENCISOTIAZOL-3(2H)-ONA
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): 784 mg/kg Female Rat

2-METIL-2H-ISOTIAZOL-3-ONA
LD50 (Cutánea): > 242 mg/kg Rat
ETA (Cutánea): 300 mg/kg estimación de la tabla 3.1.2 del Anexo I del CLP (dato utilizado para el cálculo de la estimación de la toxicidad aguda de la mezcla)
LD50 (Oral): > 120 mg/kg Rat
LC50 (Inhalación vapores): > 100 mg/m3 Rat

ÁCIDO OCTILFOSFÓNICO
LD50 (Oral): 1890 mg/kg Rat

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
LD50 (Cutánea): 600 mg/kg Rat
ETA (Cutánea): 50,001 mg/kg estimación de la tabla 3.1.2 del Anexo I del CLP (dato utilizado para el cálculo de la estimación de la toxicidad aguda de la mezcla)
LD50 (Oral): 457 mg/kg Rat
LC50 (Inhalación vapores): 0,00123 mg/l/4h Rat

C12 -18-ALQUIL DIMETILAMINA
LD50 (Oral): 500 mg/kg Rat

ALLÁ. NEGRO REACTIVO 8 Cr
LD50 (Oral): > 5000 mg/kg Rat

ACEITE DE VASELINA (PETRÓLEO)
LD50 (Cutánea): > 2000 mg/kg
LD50 (Oral): > 5000 mg/kg
LC50 (Inhalación vapores): > 5 mg/l/4h

2 - (2-HEPTADEC-8-ENIL-2-IMIDAZOLIN-1-IL) ETANOL
LD50 (Oral): 1000 mg/kg Rat

C.I. PIGMENTO AMARILLO 83
LD50 (Cutánea): 3000 mg/kg Rat
LD50 (Oral): > 15000 mg/kg Rat
LC50 (Inhalación vapores): 230 mg/m3/4h Rat

ALUMINIO EN POLVO (ESTABILIZADO)
LD50 (Oral): 15900 mg/kg rat
LC50 (Inhalación nieblas/polvos): 0,888 mg/l/4h Rat

DIPROPILENGLICOL MONOMETIL ÉTER
LD50 (Cutánea): > 9510 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalación vapores): > 275 ppm/7h Rat

2-DIMETILAMINOETANOL
LD50 (Cutánea): 1219 mg/kg Rabbit
LD50 (Oral): 1182,7 mg/kg Rat
LC50 (Inhalación vapores): 6 mg/l/4h Rat

1-METOXI-2-PROPANOL
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalación vapores): > 6000 ppm/6h Mouse

PROPAN-2-OL
LD50 (Cutánea): 8 mL/kg Rabbit
LD50 (Oral): 4710 mg/kg Rat
LC50 (Inhalación vapores): > 10000 ppm/6h Rat

## SECCIÓN 11. Información toxicológica ... / >>

ÓXIDO DE CINC

| | |
|---|---|
| LD50 (Cutánea): | 2000 mg/kg Rat |
| LD50 (Oral): | 2000 mg/kg Rat |
| LC50 (Inhalación gases): | 1,79 ppm/4h Rat |

CORROSIÓN O IRRITACIÓN CUTÁNEAS

No responde a los criterios de clasificación para esta clase de peligro

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

No responde a los criterios de clasificación para esta clase de peligro

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

Puede provocar una reacción alérgica.
Contiene:
2-METIL-2H-ISOTIAZOL-3-ONA
MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
C.I. REACTIVE BROWN 11
ALLÁ. NEGRO REACTIVO 8 Cr

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

No responde a los criterios de clasificación para esta clase de peligro

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

### 11.2. Información sobre otros peligros

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

El producto debe ser considerado peligroso para el medio ambiente y es nocivo para los organismos acuáticos. Provocar, a largo plazo, efectos negativos en el ambiente acuático.

### 12.1. Toxicidad

NEGRO DE CARBONO

| | |
|---|---|
| LC50 - Peces | 1000 mg/l/96h Brachydanio rerio |
| EC50 - Crustáceos | > 5600 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 10000 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica algas / plantas acuáticas | 10000 mg/l Scenedesmus subspicatus |

4-HIDROXI-2,2,6,6-TETRAMETIL PIPERIDIN OXIL

| | |
|---|---|
| LC50 - Peces | 545 mg/l/96h Brachydanio rerio |
| EC50 - Crustáceos | 54 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 1038 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica crustáceos | 1,5 mg/l Daphnia magna |

## SECCIÓN 12. Información ecológica ... / >>

1,2-BENCISOTIAZOL-3(2H)-ONA

| | |
|---|---|
| LC50 - Peces | > 2,15 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | 2,94 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 0,11 mg/l/72h Pseudokirchnerella subcapitata |
| NOEC crónica algas / plantas acuáticas | > 0,0403 mg/l/72h skeletonema costatum |

2-METIL-2H-ISOTIAZOL-3-ONA

| | |
|---|---|
| LC50 - Peces | > 4,77 mg/l/96h |
| EC50 - Crustáceos | 1,6 mg/l/48h |
| NOEC crónica peces | > 2,1 mg/l/33d |
| NOEC crónica crustáceos | > 0,0442 mg/l/21d |
| NOEC crónica algas / plantas acuáticas | > 10 mg/l/96h |

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN

| | |
|---|---|
| EC50 - Algas / Plantas Acuáticas | 0,037 mg/l/72h Selenastrum capricornutum |
| NOEC crónica algas / plantas acuáticas | 0,0035 mg/l |

ALLÁ. NEGRO REACTIVO 8 Cr

| | |
|---|---|
| EC50 - Algas / Plantas Acuáticas | 78,2 mg/l/72h |
| NOEC crónica algas / plantas acuáticas | 3,2 mg/l |

C.I. PIGMENTO AMARILLO 83

| | |
|---|---|
| LC50 - Peces | 100 mg/l/96h |
| EC50 - Crustáceos | > 100 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | 100 mg/l/72h |
| EC10 Crustáceos | 1000 mg/l/48h |
| NOEC crónica crustáceos | 100 mg/l/48h |
| NOEC crónica algas / plantas acuáticas | 100 mg/l/72h |

ALUMINIO EN POLVO (ESTABILIZADO)

| | |
|---|---|
| LC50 - Peces | 0,0029 mg/l/96h |
| EC50 - Crustáceos | > 1,5 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | > 0,0169 mg/l/72h |
| EC10 Algas / Plantas Acuáticas | < 3,155 mg/l/72h |
| NOEC crónica peces | > 0,057 mg/l/30d |
| NOEC crónica crustáceos | > 1,092 mg/l |

DIPROPILENGLICOL MONOMETIL ÉTER

| | |
|---|---|
| LC50 - Peces | > 1000 mg/l/96h Poecillia reticulata |
| EC50 - Crustáceos | 1919 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 969 mg/l/72h Selenastrum capricornutum |
| NOEC crónica crustáceos | 0,5 mg/l/22d |

2-DIMETILAMINOETANOL

| | |
|---|---|
| LC50 - Peces | 146,6 mg/l/96h Leuciscus idus |
| EC50 - Crustáceos | 98,4 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 66,1 mg/l/72h Scenedesmus subspicatus |
| EC10 Algas / Plantas Acuáticas | 24,5 mg/l/72h Scenedesmus subspicatus |

1-METOXI-2-PROPANOL

| | |
|---|---|
| LC50 - Peces | < 20800 mg/l/96h pimephales promelas |
| EC50 - Crustáceos | > 21100 mg/l/48h Daphnia |
| NOEC crónica peces | < 4640 mg/l/96h |
| NOEC crónica algas / plantas acuáticas | > 1000 mg/l/7d selenastrum capricornutum |

PROPAN-2-OL

| | |
|---|---|
| LC50 - Peces | 9640 mg/l/96h |
| EC50 - Crustáceos | 13299 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 1000 mg/l/72h Desmodesmus subspicatus |

ÓXIDO DE CINC

| | |
|---|---|
| LC50 - Peces | 0,102 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | 105 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 0,022 mg/l/72h Pseudokirchnerella subcapitata |
| EC10 Algas / Plantas Acuáticas | 1,31 mg/l/7d |
| NOEC crónica peces | 0,53 mg/l |
| NOEC crónica algas / plantas acuáticas | 0,024 mg/l |

## SECCIÓN 12. Información ecológica ... / >>

### 12.2. Persistencia y degradabilidad

NEGRO DE CARBONO
Solubilidad en agua 1 mg/l @ 20 °C

1,2-BENCISOTIAZOL-3(2H)-ONA
NO rápidamente degradable

2-METIL-2H-ISOTIAZOL-3-ONA
Solubilidad en agua 489 g/l @ 20°C

ÁCIDO OCTILFOSFÓNICO
Solubilidad en agua 188 mg/l @ 25 °C
Rápidamente degradable

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
Solubilidad en agua 3000 g/l 20 °C
Inherentemente degradable

C12 -18-ALQUIL DIMETILAMINA
Rápidamente degradable

ALLÁ. NEGRO REACTIVO 8 Cr
Solubilidad en agua 433 g/l @ 20 °C

2 - (2-HEPTADEC-8-ENIL-2-IMIDAZOLIN-1-IL) ETANOL
Solubilidad en agua 0,0024 mg/l @ 25 °C

C.I. PIGMENTO AMARILLO 83
Solubilidad en agua 0,0081 mg/l @ 23 °C

ALUMINIO EN POLVO (ESTABILIZADO)
Solubilidad en agua
Degradabilidad: dato no disponible

DIPROPILENGLICOL MONOMETIL ÉTER
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

2-DIMETILAMINOETANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

1-METOXI-2-PROPANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

PROPAN-2-OL
Rápidamente degradable

ÓXIDO DE CINC
Solubilidad en agua 2,9 mg/l
NO rápidamente degradable

### 12.3. Potencial de bioacumulación

1,2-BENCISOTIAZOL-3(2H)-ONA
Coeficiente de distribución: n-octanol/agua 0,7

2-METIL-2H-ISOTIAZOL-3-ONA
Coeficiente de distribución: n-octanol/agua -0,486 @ 20°C

ÁCIDO OCTILFOSFÓNICO
Coeficiente de distribución: n-octanol/agua 2,7 @ 25 °C

## SECCIÓN 12. Información ecológica ... / >>

MEZCLA DE 5-CLORO-2-METIL-3(2H)- ISOTIAZOLIN E 2-METIL-3(2H)-ISOTIAZOLIN
Coeficiente de distribución: n-octanol/agua 0,75

ALLÁ. NEGRO REACTIVO 8 Cr
Coeficiente de distribución: n-octanol/agua -6,29 @ 20 °C

2 - (2-HEPTADEC-8-ENIL-2-IMIDAZOLIN-1-IL) ETANOL
Coeficiente de distribución: n-octanol/agua 7,51 @ 25 °C

C.I. PIGMENTO AMARILLO 83
Coeficiente de distribución: n-octanol/agua 0,02 @ 24 °C

DIPROPILENGLICOL MONOMETIL ÉTER
Coeficiente de distribución: n-octanol/agua 0,0043

2-DIMETILAMINOETANOL
Coeficiente de distribución: n-octanol/agua -0,55

1-METOXI-2-PROPANOL
Coeficiente de distribución: n-octanol/agua < 1

PROPAN-2-OL
Coeficiente de distribución: n-octanol/agua 0,05 Log Kow 25°C

ÓXIDO DE CINC
BCF > 175

**12.4. Movilidad en el suelo**

Información no disponible.

**12.5. Resultados de la valoración PBT y mPmB**

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

**12.6. Propiedades de alteración endocrina**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

**12.7. Otros efectos adversos**

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

**13.1. Métodos para el tratamiento de residuos**

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

El producto no debe ser considerada peligrosa según las disposiciones vigentes en lo que concierne al transporte de mercancías peligrosas por carretera (A.D.R.), ferrocarril (RID), mar (IMDG Code) y vía aérea (IATA).

**14.1. Número ONU o número ID**

no aplicable

## SECCIÓN 14. Información relativa al transporte ... / >>

**14.2. Designación oficial de transporte de las Naciones Unidas**

no aplicable

**14.3. Clase(s) de peligro para el transporte**

no aplicable

**14.4. Grupo de embalaje**

no aplicable

**14.5. Peligros para el medio ambiente**

no aplicable

**14.6. Precauciones particulares para los usuarios**

no aplicable

**14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI**

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

**15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

Categoría Seveso - Directivo 2012/18/UE: Ninguna

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos
no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

Controles sanitarios
Información no disponible.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 1: Poco peligroso para las aguas.

**15.2. Evaluación de la seguridad química**

No se ha realizado una evaluación de seguridad química para la mezcla/las sustancias indicadas en la sección 3.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 2** | Líquidos inflamables, categoría 2 |
| **Flam. Liq. 3** | Líquidos inflamables, categoría 3 |
| **Flam. Sol. 1** | Sólidos inflamables, categoría 1 |
| **Water-react. 2** | Sustancias y mezclas que, en contacto con el agua, desprenden gases inflamables, categoría 2 |
| **Acute Tox. 2** | Toxicidad aguda, categoría 2 |
| **Acute Tox. 3** | Toxicidad aguda, categoría 3 |
| **Acute Tox. 4** | Toxicidad aguda, categoría 4 |
| **Asp. Tox. 1** | Peligro por aspiración, categoría 1 |
| **STOT RE 2** | Toxicidad específica en determinados órganos - exposiciones repetidas, categoría 2 |
| **Skin Corr. 1B** | Corrosión cutáneas, categoría 1B |
| **Skin Corr. 1C** | Corrosión cutáneas, categoría 1C |
| **Eye Dam. 1** | Lesiones oculares graves, categoría 1 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **Skin Irrit. 2** | Irritación cutáneas, categoría 2 |
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **Skin Sens. 1** | Sensibilización cutánea, categoría 1 |
| **Aquatic Acute 1** | Peligroso para el medio ambiente acuático, toxicidad aguda, categoría 1 |
| **Aquatic Chronic 1** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 1 |
| **Aquatic Chronic 3** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 3 |
| **H225** | Líquido y vapores muy inflamables. |
| **H226** | Líquidos y vapores inflamables. |
| **H228** | Sólido inflamable. |
| **H261** | En contacto con el agua desprende gases inflamables. |
| **H310** | Mortal en contacto con la piel. |
| **H330** | Mortal en caso de inhalación. |
| **H301** | Tóxico en caso de ingestión. |
| **H311** | Tóxico en contacto con la piel. |
| **H331** | Tóxico en caso de inhalación. |
| **H302** | Nocivo en caso de ingestión. |
| **H312** | Nocivo en contacto con la piel. |
| **H304** | Puede ser mortal en caso de ingestión y penetración en las vías respiratorias. |
| **H373** | Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas. |
| **H314** | Provoca quemaduras graves en la piel y lesiones oculares graves. |
| **H318** | Provoca lesiones oculares graves. |
| **H319** | Provoca irritación ocular grave. |
| **H315** | Provoca irritación cutánea. |
| **H335** | Puede irritar las vías respiratorias. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **H400** | Muy tóxico para los organismos acuáticos. |
| **H410** | Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos. |
| **H412** | Nocivo para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH071** | Corrosivo para las vías respiratorias. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico

## SECCIÓN 16. Otra información ... / >>

- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos
- REACH: Reglamento (CE) 1907/2006
- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral
- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

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2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)
6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)
8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
10. Reglamento (UE) 2015/1221 del Parlamento Europeo (VII Atp. CLP)
11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
13. Reglamento (UE) 2017/776 (X Atp. CLP)
14. Reglamento (UE) 2018/669 (XI Atp. CLP)
15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
19. Reglamento delegado (UE) 2020/1182 (XV Atp. CLP)
20. Reglamento delegado (UE) 2021/643 (XVI Atp. CLP)
21. Reglamento delegado (UE) 2021/849 (XVII Atp. CLP)
22. Reglamento delegado (UE) 2022/692 (XVIII Atp. CLP)
23. Reglamento delegado (UE) 2023/707
24. Reglamento delegado (UE) 2023/1434 (XIX Atp. CLP)
25. Reglamento delegado (UE) 2023/1435 (XX Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.
Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

## SECCIÓN 16. Otra información ... / >>

Modificaciones con respecto a la revisión precedente:
Han sido realizadas variaciones en las siguientes secciones:
03 / 04 / 08 / 11 / 16.

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

Código: **VPACB42604**
Denominación **FIN. ACR. LOW EMISS. B426 Op.04**

UFI : **F607-U0XU-S001-MXVN**

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Producto de pintura para la producción de piezas interiores de automóviles.** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

Razón social: **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Dirección: **Via Bedeschi, 25**
Localidad y Estado: **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

dirección electrónica de la persona competente,
responsable de la ficha de datos de seguridad **gianluca.cerina@icro.it**

Proveedor: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia**

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Líquidos inflamables, categoría 3 | H226 | Líquidos y vapores inflamables. |
| Sensibilización cutánea, categoría 1A | H317 | Puede provocar una reacción alérgica en la piel. |
| Toxicidad específica en determinados órganos - exposiciones única, categoría 3 | H336 | Puede provocar somnolencia o vértigo. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro:



## SECCIÓN 2. Identificación de los peligros ... / >>

Palabras de advertencia: Atención

Indicaciones de peligro:

| | |
|---|---|
| **H226** | Líquidos y vapores inflamables. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

Consejos de prudencia:

| | |
|---|---|
| **P210** | Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar. |
| **P280** | Llevar guantes / prendas / gafas / máscara de protección. |
| **P370+P378** | En caso de incendio: utilice polvo para extinguir. |
| **P261** | Evitar respirar el polvo / el humo / el gas / la niebla / los vapores / el aerosol. |

**Contiene:** REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4- SEBACATO DE PIPERIDILO
ACETATO DE N-BUTILO
CARBALDEHÍDO 4-MORFOLINA
METACRILATO DE METILO

### 2.3. Otros peligros

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

El producto no contiene sustancias con propiedades de alteración del sistema endocrino en concentración ≥ 0,1%.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.2. Mezclas

Contiene:

| Identificación | | x = Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|---|
| **ACETATO DE N-BUTILO** | | | |
| *INDEX* | *607-025-00-1* | 60 ≤ x < 70 | **Flam. Liq. 3 H226, STOT SE 3 H336, EUH066** |
| *CE* | *204-658-1* | | |
| *CAS* | *123-86-4* | | |
| *Reg. REACH* | *01-2119485493-XXXX* | | |
| **ACETATO DE 2-METOXI-1-METILETILO** | | | |
| *INDEX* | *607-195-00-7* | 5 ≤ x < 7 | **Flam. Liq. 3 H226** |
| *CE* | *203-603-9* | | |
| *CAS* | *108-65-6* | | |
| *Reg. REACH* | *01-2119475791-XXXX* | | |
| **HIDRATO DE SILICATO AMORFO** | | | |
| *INDEX* | | 3,5 ≤ x < 4 | |
| *CE* | *231-545-4* | | |
| *CAS* | *7631-86-9* | | |
| *Reg. REACH* | *01-2119379499-XXXX* | | |
| **CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS** | | | |
| *INDEX* | | 1,5 ≤ x < 2 | |
| *CE* | *232-315-6* | | |
| *CAS* | *8002-74-2* | | |
| *Reg. REACH* | *01-2119488076-30-XXXX* | | |
| **ACETATO DE ETILO** | | | |
| *INDEX* | *607-022-00-5* | 0,35 ≤ x < 0,4 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *CE* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *Reg. REACH* | *01-2119475103-XXXX* | | |
| **METACRILATO DE METILO** | | | |
| *INDEX* | *607-035-00-6* | 0,15 ≤ x < 0,2 | **Flam. Liq. 2 H225, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317, Nota de clasificación según el anexo VI del Reglamento CLP: D** |
| *CE* | *201-297-1* | | |
| *CAS* | *80-62-6* | | |

## SECCIÓN 3. Composición/información sobre los componentes ... / >>

| | | | |
|---|---|---|---|
| *Reg. REACH* | *01-2119452498-XXXX* | | |
| **BUTAN-1-OL** | | | |
| *INDEX* | *603-004-00-6* | 0,15 ≤ x < 0,2 | **Flam. Liq. 3 H226, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336** |
| *CE* | *200-751-6* | | **ETA Oral: 500 mg/kg** |
| *CAS* | *71-36-3* | | |
| *Reg. REACH* | *01-2119484630-XXXX* | | |
| **REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4-SEBACATO DE PIPERIDILO** | | | |
| *INDEX* | | 0,15 ≤ x < 0,2 | **Repr. 2 H361f, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *CE* | *915-687-0* | | |
| *CAS* | *1065336-91-5* | | |
| *Reg. REACH* | *01-2119491304-40-XXXX* | | |
| **CARBALDEHÍDO 4-MORFOLINA** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | **Skin Sens. 1 H317** |
| *CE* | *224-518-3* | | |
| *CAS* | *4394-85-8* | | |
| *Reg. REACH* | *01-2119987993-XXXX* | | |
| **DIPROPILENGLICOL** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | |
| *CE* | *246-770-3* | | |
| *CAS* | *25265-71-8* | | |
| *Reg. REACH* | *01-2119456811-XXXX* | | |
| **1,4 DIAZABICICLO OCTANO** | | | |
| *INDEX* | | 0,02 ≤ x < 0,06 | **Flam. Sol. 2 H228, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315** |
| *CE* | *205-999-9* | | **LD50 Oral: >700 mg/kg** |
| *CAS* | *280-57-9* | | |
| *Reg. REACH* | *01-2119980944-XXXX* | | |
| **METACRILATO DE 2-HIDROXIETILO** | | | |
| *INDEX* | *607-124-00-X* | 0,02 ≤ x < 0,06 | **Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Nota de clasificación según el anexo VI del Reglamento CLP: D** |
| *CE* | *212-782-2* | | |
| *CAS* | *868-77-9* | | |
| *Reg. REACH* | *01-2119490169-XXXX* | | |
| **1-METOXI-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 0,02 ≤ x < 0,06 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *CE* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *Reg. REACH* | *01-2119457435-XXXX* | | |
| **CLORURO DE LITIO** | | | |
| *INDEX* | | 0 < x < 0,03 | **Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315** |
| *CE* | *231-212-3* | | **LD50 Oral: 526 mg/kg** |
| *CAS* | *7447-41-8* | | |
| *Reg. REACH* | *01-2119560574-XXXX* | | |

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Quite al accidentado las eventuales lentes de contacto, si la situación permite realizar esta operación fácilmente. Lave inmediatamente con abundante agua durante al menos 15 minutos, abriendo bien los párpados. Consulte inmediatamente a un médico.
PIEL: Quitar inmediatamente todas las prendas contaminadas. Lave inmediatamente con abundante agua corriente (y, si es posible, con jabón). Consulte inmediatamente a un médico. Evite ulteriores contactos con las prendas contaminadas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consulte inmediatamente a un médico.
INHALACIÓN: Lleve al sujeto al aire libre, lejos del lugar del accidente. En caso de síntomas respiratorios (tos, dispnea, respiración dificultosa, asma), mantenga al accidentado en una posición que facilite la respiración. Si es necesario, administre oxígeno. Si la respiración cesa, practique respiración artificial. Consulte inmediatamente a un médico.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de

## SECCIÓN 4. Primeros auxilios ... / >>

exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se remite a la sección 8.

**4.2. Principales síntomas y efectos, agudos y retardados**

No hay información específica sobre síntomas y efectos provocados por el producto.

EFECTOS RETARDADOS: Sobre la base de los datos disponibles, no se conocen casos de efectos retardados después de la exposición a este producto.

**4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

Si no se siente bien, comuníquese con un CENTRO DE TOXICOLOGÍA o con un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

**5.1. Medios de extinción**

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los siguientes: anhídrido carbónico, espuma y polvo químico. Para las pérdidas y derrames de producto que no se hayan incendiado, el agua nebulizada puede ser utilizada para dispersar los vapores inflamables y proteger a las personas encargadas de detener la pérdida.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
No use chorros de agua. El agua no es eficaz para extinguir el incendio; sin embargo, puede usarse para enfriar los recipientes cerrados expuestos a las llamas, previniendo estallidos y explosiones.

**5.2. Peligros específicos derivados de la sustancia o la mezcla**

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Se puede crear sobrepresión en los recipientes expuestos al fuego, con peligro de explosión. Evite respirar los productos de la combustión.

METACRILATO DE METILO
El calor puede provocar la polimerización del producto, incluso con efectos explosivos.

**5.3. Recomendaciones para el personal de lucha contra incendios**

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

**6.1. Precauciones personales, equipo de protección y procedimientos de emergencia**

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

Aleje a las personas desprovistas de equipo. Utilice un dispositivo antideflagrante. Elimine toda fuente de ignición (cigarrillos, llamas, chispas, etc.) o de calor en el área en que se ha verificado la pérdida.

**6.2. Precauciones relativas al medio ambiente**

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

**6.3. Métodos y material de contención y de limpieza**

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la

**SECCIÓN 6. Medidas en caso de vertido accidental** ... / >>

sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las disposiciones del punto 13.

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

**7.1. Precauciones para una manipulación segura**

Mantenga el producto lejos de fuentes de calor, chispas y llamas libres; no fume ni use cerillas o mecheros. Sin una adecuada ventilación, los vapores podrían acumularse en el suelo y, en presencia de una fuente de ignición, incendiarse incluso a distancia, con el peligro de un retorno de llama. Evite la acumulación de cargas electrostáticas. En caso de embalajes de grandes dimensiones, conecte una toma de tierra y utilice calzado antiestático durante las operaciones de trasiego. La agitación enérgica y el paso con fuerza del líquido en las tuberías y aparatos pueden causar la formación y acumulación de cargas electrostáticas. Para evitar el peligro de incendio y explosión, evite el uso de aire comprimido durante su movimiento. Abra los recipientes con cuidado, ya que pueden estar bajo presión. No coma, beba ni fume durante el uso. Evite la dispersión del producto en el ambiente.

**7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

Conserve el producto solamente en el envase original. Conserve los recipientes cerrados, en un lugar bien ventilado, protegidos de la acción directa de los rayos del sol. Conserve el producto en un lugar fresco y bien ventilado, lejos de fuentes de calor, llamas libres, chispas y otras fuentes de ignición. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

ACETATO DE 2-METOXI-1-METILETILO
Conservar en atmósfera inerte y protegido de la humedad, ya que se hidroliza fácilmente.

Clase de almacenamiento TRGS 510 (Alemania): 3

**7.3. Usos específicos finales**

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

**8.1. Parámetros de control**

Referencias normativas:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

| | | |
|---|---|---|
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | TLV-ACGIH | ACGIH 2025 |

**REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4- SEBACATO DE PIPERIDILO**

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0022 | mg/l |
| Valor de referencia en agua marina | 0,00022 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,05 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,11 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,009 | mg/l |
| Valor de referencia para los microorganismos STP | 1 | mg/l |
| Valor de referencia para el medio terrestre | 0,21 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 0,18 mg/kg bw/d | | | | |
| Inhalación | | | | 0,31 mg/m3 | | | | 1,27 mg/m3 |
| Dérmica | | | | 0,9 mg/kg bw/d | | | | 1,8 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### DIPROPILENGLICOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 100 | | 200 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,1 | mg/l |
| Valor de referencia en agua marina | 0,01 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,238 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0238 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1 | mg/l |
| Valor de referencia para los microorganismos STP | 1000 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 313 | mg/kg |
| Valor de referencia para el medio terrestre | 0,0253 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 24 mg/kg bw/d | | | | |
| Inhalación | | | | 70 mg/m3 | | | | 238 mg/m3 |
| Dérmica | | | | 51 mg/kg bw/d | | | | 84 mg/kg bw/d |

### 1,4 DIAZABICICLO OCTANO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,1 | mg/l |
| Valor de referencia en agua marina | 0,01 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,13 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1 | mg/l |
| Valor de referencia para los microorganismos STP | 200 | mg/l |
| Valor de referencia para el medio terrestre | 0,19 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 0,5 mg/kg bw/d | | | | |
| Inhalación | | | | 1,46 mg/m3 | | | | 8,24 mg/m3 |
| Dérmica | | | | 0,50 mg/kg bw/d | | | | 1,4 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### CARBALDEHÍDO 4-MORFOLINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,5 | mg/l |
| Valor de referencia en agua marina | 0,05 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,85 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,185 | mg/kg |
| Valor de referencia para el agua marina, liberación intermitente | 5 | mg/l |
| Valor de referencia para los microorganismos STP | 2000 | mg/l |
| Valor de referencia para el medio terrestre | 0,0764 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 4,17 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | 13,3 mg/m3 | 8,93 mg/m3 | NPI | NPI | 13,3 mg/m3 | 50,3 mg/m3 |
| Dérmica | NPI | NPI | MED | 4,17 mg/kg bw/d | NPI | NPI | MED | 11,7 mg/kg bw/d |

### CLORURO DE LITIO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10,4 | mg/l |
| Valor de referencia en agua marina | 1,04 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 49,9 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 4,99 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 10,4 | mg/l |
| Valor de referencia para los microorganismos STP | 140,2 | mg/l |
| Valor de referencia para el medio terrestre | 4,13 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 21,96 mg/kg/d | | 7,32 mg/kg/d | | | | |
| Inhalación | | 30 mg/m3 | | 10 mg/m3 | | 30 mg/m3 | | 10 mg/m3 |
| Dérmica | | 50 mg/kg/d | | 72,3 mg/kg/d | | 100 mg/kg/d | | 73,2 mg/kg/d |

### CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV-ACGIH | | 2 | | | | |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### METACRILATO DE 2-HIDROXIETILO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,482 | mg/l |
| Valor de referencia en agua marina | 0,0482 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 3,79 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 3,79 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 0,476 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,830 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 1,45 mg/m3 | NPI | NPI | NPI | 4,9 mg/m3 |
| Dérmica | NPI | NPI | NPI | 0,830 mg/kg bw/d | NPI | NPI | NPI | 1,39 mg/kg |

### HIDRATO DE SILICATO AMORFO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 4 | | | | INHAL |
| MAK | DEU | 4 | | | | INHAL |
| MAK | DEU | 0,02 | | 0,16 | | RESPIR |
| TLV | EST | 2 | | | | |
| RV | LVA | 1 | | | | |
| MV | SVN | 4 | | | | INHAL |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Inhalación | | | | | | | | 4 mg/m3 |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**METACRILATO DE METILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | | 50 | | 100 | | |
| TLV | CZE | 50 | 12 | 150 | 36 | | |
| AGW | DEU | 210 | 50 | 420 | 100 | | |
| MAK | DEU | 210 | 50 | 420 | 100 | | |
| TLV | DNK | 102 | 25 | | 100 | PIEL | E |
| VLA | ESP | | 50 | | 100 | | |
| TLV | EST | | 50 | | 100 | | |
| VLEP | FRA | 205 | 50 | 410 | 100 | | |
| TLV | GRC | | 50 | | 100 | | |
| AK | HUN | 208 | 50 | 415 | 100 | PIEL | |
| GVI/KGVI | HRV | 50 | | 100 | | PIEL | |
| VLEP | ITA | | 50 | | 100 | | |
| RV | LVA | 10 | | | | | |
| TLV | NOR | 100 | 25 | 400 | 100 | | |
| TGG | NLD | 205 | | 410 | | | |
| VLE | PRT | | 50 | | 100 | | |
| NDS/NDSCh | POL | 100 | | 300 | | | |
| TLV | ROU | 205 | 50 | 410 | 100 | | |
| ПДК | RUS | 10 | | 20 | | | п |
| NGV/KGV | SWE | 200 | 50 | 400 | 100 | | |
| NPEL | SVK | | 50 | | 100 | | |
| MV | SVN | 210 | 50 | 420 | 100 | | |
| ESD | TUR | | 50 | | 100 | | |
| WEL | GBR | 208 | 50 | 416 | 100 | | |
| OEL | EU | | 50 | | 100 | | |
| TLV-ACGIH | | 205 | 50 | 410 | 100 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,94 | mg/l |
| Valor de referencia en agua marina | 0,094 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 10,2 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 10,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,69 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 1,48 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 8,2 mg/kg bw/d | | | | |
| Inhalación | 208 mg/m3 | NPI | 104 mg/m3 | 74,3 mg/m3 | 416 mg/m3 | NPI | 208 mg/m3 | 384,4 mg/m3 |
| Dérmica | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 8,2 mg/kg/d | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 13,67 mg/kg |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**ACETATO DE 2-METOXI-1-METILETILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 275 | 50 | 550 | 100 | PIEL | |
| TLV | CZE | 270 | 49,14 | 550 | 100,1 | PIEL | |
| AGW | DEU | 270 | 50 | 270 | 50 | | |
| MAK | DEU | 270 | 50 | 270 | 50 | | |
| TLV | DNK | 275 | 50 | 550 | 100 | PIEL | E |
| VLA | ESP | 275 | 50 | 550 | 100 | PIEL | |
| TLV | EST | 275 | 50 | 550 | 100 | PIEL | |
| VLEP | FRA | 275 | 50 | 550 | 100 | PIEL | |
| TLV | GRC | 275 | 50 | 550 | 100 | | |
| AK | HUN | 275 | 50 | 550 | 100 | | |
| GVI/KGVI | HRV | 275 | 50 | 550 | 100 | PIEL | |
| VLEP | ITA | 275 | 50 | 550 | 100 | PIEL | |
| RV | LVA | 275 | 50 | 550 | 100 | PIEL | |
| TLV | NOR | 270 | 50 | | | PIEL | |
| TGG | NLD | 550 | | | | | |
| VLE | PRT | 275 | 50 | 550 | 100 | PIEL | |
| NDS/NDSCh | POL | 260 | | 520 | | PIEL | |
| TLV | ROU | 275 | 50 | 550 | 100 | PIEL | |
| ПДК | RUS | | | 10 | | | п |
| NGV/KGV | SWE | 275 | 50 | 550 | 100 | PIEL | |
| NPEL | SVK | 275 | 50 | 550 | 100 | PIEL | |
| MV | SVN | 275 | 50 | 550 | 100 | PIEL | |
| ESD | TUR | 275 | 50 | 550 | 100 | PIEL | |
| WEL | GBR | 274 | 50 | 548 | 100 | PIEL | |
| OEL | EU | 275 | 50 | 550 | 100 | PIEL | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,635 | mg/l |
| Valor de referencia en agua marina | 0,0635 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 3,29 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,329 | mg/kg |
| Valor de referencia para el agua marina, liberación intermitente | 6,35 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 0,29 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 500 mg/kg bw/d | | 36 mg/kg | | | | |
| Inhalación | NPI | NPI | 33 mg/m3 | 33 mg/m3 | 550 mg/m3 | NPI | NPI | 275 mg/m3 |
| Dérmica | NPI | NPI | NPI | 320 mg/kg | NPI | NPI | NPI | 796 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**BUTAN-1-OL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 100 | | 150 | | |
| TLV | CZE | 300 | 97,5 | 600 | 195 | |
| AGW | DEU | 310 | 100 | 310 | 100 | |
| MAK | DEU | 310 | 100 | 310 | 100 | |
| TLV | DNK | | | 150 (C) | 50 (C) | PIEL |
| VLA | ESP | 61 | 20 | 154 | 50 | |
| TLV | EST | 45 | 15 | 90 (C) | 30 (C) | PIEL |
| VLEP | FRA | | | 150 | 50 | |
| TLV | GRC | 300 | 100 | 300 | 100 | |
| AK | HUN | 45 | | 90 | | PIEL |
| GVI/KGVI | HRV | | | 154 | 50 | PIEL |
| RV | LVA | 10 | | | | |
| TLV | NOR | 75 | 25 | | | PIEL |
| TGG | NLD | | | 45 | | |
| NDS/NDSCh | POL | 50 | | 150 | | PIEL |
| TLV | ROU | 100 | 33 | 200 | 66 | |
| ПДК | RUS | 10 | | 30 | | п |
| NGV/KGV | SWE | 45 | 15 | 90 | 30 | PIEL |
| NPEL | SVK | 310 | 100 | | | |
| MV | SVN | 310 | 100 | 310 | 100 | |
| ESD | TUR | 300 | 100 | | | |
| WEL | GBR | | | 154 | 50 | PIEL |
| TLV-ACGIH | | 61 | 20 | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,082 | mg/l |
| Valor de referencia en agua marina | 0,0082 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,324 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,032 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 2,25 | mg/l |
| Valor de referencia para los microorganismos STP | 2476 | mg/l |
| Valor de referencia para el medio terrestre | 0,017 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 1,562 mg/kg bw/d | | | | |
| Inhalación | | NPI | 155 mg/m3 | 55,357 mg/m3 | | NPI | 310 mg/m3 | |
| Dérmica | | NPI | | 3,125 mg/kg bw/d | | NPI | | |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### 1-METOXI-2-PROPANOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 375 | 100 | 568 | 150 | PIEL |
| TLV | CZE | 270 | 72,09 | 550 | 146,85 | PIEL |
| AGW | DEU | 370 | 100 | 740 | 200 | |
| MAK | DEU | 370 | 100 | 740 | 200 | |
| TLV | DNK | 185 | 50 | 568 | 150 | PIEL E |
| VLA | ESP | 375 | 100 | 568 | 150 | PIEL |
| TLV | EST | 375 | 100 | 568 | 150 | PIEL |
| VLEP | FRA | 188 | 50 | 375 | 100 | PIEL |
| TLV | GRC | 360 | 100 | 1080 | 300 | |
| AK | HUN | 375 | 100 | 568 | 150 | PIEL |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | |
| VLEP | ITA | 375 | 100 | 568 | 150 | PIEL |
| RV | LVA | 375 | 100 | 568 | 150 | PIEL |
| TLV | NOR | 180 | 50 | | | PIEL |
| TGG | NLD | 375 | | 563 | | PIEL |
| VLE | PRT | 375 | 100 | 568 | 150 | |
| NDS/NDSCh | POL | 180 | | 360 | | PIEL |
| TLV | ROU | 375 | 100 | 568 | 150 | PIEL |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | PIEL |
| NPEL | SVK | 375 | 100 | 568 | 150 | PIEL |
| MV | SVN | 375 | 100 | 568 | 150 | PIEL |
| ESD | TUR | 375 | 100 | 568 | 150 | PIEL |
| WEL | GBR | 375 | 100 | 560 | 150 | PIEL |
| OEL | EU | 375 | 100 | 568 | 150 | PIEL |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10 | mg/l |
| Valor de referencia en agua marina | 1 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 52,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 5,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 100 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 4,59 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Dérmica | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**ACETATO DE ETILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | | 1468 | | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| ПДК | RUS | 50 | | 200 | | п |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| TLV-ACGIH | | 1441 | 400 | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,24 | mg/l |
| Valor de referencia en agua marina | 0,024 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,15 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,115 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1,65 | mg/l |
| Valor de referencia para los microorganismos STP | 650 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 200 | mg/kg |
| Valor de referencia para el medio terrestre | 0,148 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalación | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Dérmica | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ACETATO DE N-BUTILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 710 | | 950 | | |
| TLV | CZE | 241 | | 723 | | |
| AGW | DEU | 300 | 62 | 600 | 124 | |
| MAK | DEU | 480 | 100 | 960 | 200 | |
| TLV | DNK | 241 | 50 | 723 | 150 | E |
| VLA | ESP | 241 | 50 | 723 | 150 | |
| TLV | EST | 500 | 100 | 700 | 150 | |
| VLEP | FRA | 241 | 50 | 723 | 150 | |
| TLV | GRC | 710 | 150 | 950 | 200 | |
| AK | HUN | 241 | 50 | 723 | 150 | |
| GVI/KGVI | HRV | 241 | 50 | 723 | 150 | |
| VLEP | ITA | 241 | 50 | 723 | 150 | |
| RV | LVA | 200 | | | | |
| TLV | NOR | | 75 | | | |
| TGG | NLD | 150 | | | | |
| VLE | PRT | 241 | 50 | 723 | 150 | |
| NDS/NDSCh | POL | 240 | | 720 | | |
| TLV | ROU | 241 | 50 | 723 | 150 | |
| ПДК | RUS | | | 0,1 | | п |
| NGV/KGV | SWE | 241 | 50 | 723 (C) | 150 (C) | |
| NPEL | SVK | 241 | 50 | 723 | 150 | |
| MV | SVN | 300 | 62 | 600 | 124 | |
| ESD | TUR | 241 | 50 | 723 | 150 | |
| WEL | GBR | 724 | 150 | 966 | 200 | |
| OEL | EU | 241 | 50 | 723 | 150 | |
| TLV-ACGIH | | | 50 | | 150 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,18 | mg/l |
| Valor de referencia en agua marina | 0,018 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,981 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0981 | mg/kg |
| Valor de referencia para el agua marina, liberación intermitente | 0,36 | mg/l |
| Valor de referencia para los microorganismos STP | 35,6 | mg/l |
| Valor de referencia para el medio terrestre | 0,0903 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 2 mg/kg/d | | 2 mg/kg/d | | | | |
| Inhalación | 300 mg/m3 | 300 mg/m3 | 35,7 mg/m3 | 35,7 mg/m3 | 600 mg/m3 | 600 mg/m3 | 300 mg/m3 | 300 mg/m3 |
| Dérmica | NPI | 6 mg/kg/d | NPI | 6 mg/kg/d | NPI | 11 mg/kg/d | NPI | 11 mg/kg/d |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
Durante la elección de los equipos protectores personales pedir consejo a los proveedores de sustancias químicas.
Los dispositivos de protección individual deben ser conformes a las normativas vigentes y deberán llevar el marcado CE.
Prever un sistema para el lavado ocular y una ducha de emergencia.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.
PROTECCIÓN DE LA PIEL

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría II (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.
Evaluar la posibilidad de proporcionar indumentaria antiestática en caso de que en el ambiente de trabajo exista riesgo de explosión.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del trabajador. Se aconseja llevar una mascarilla con filtro de tipo A.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.
CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | blanco lechoso | | |
| Olor | típico de disolvente | | |
| Umbral olfativo | no aplicable | | |
| Punto de fusión / punto de congelación | no aplicable | | |
| Punto inicial de ebullición | 126 | °C | |
| Intervalo de ebullición | 126-130 | °C | |
| Inflamabilidad | no aplicable | | |
| Límites inferior de explosividad | 1,7 | % (v/v) | Temperatura: 20 °C |
| Límites superior de explosividad | 7,6 | % (v/v) | Temperatura: 20 °C |
| Punto de inflamación | 27 | °C | |
| Temperatura de auto-inflamación | 404 | °C | |
| Temperatura de descomposición | no aplicable | | |
| pH | no aplicable | | |
| Viscosidad cinemática | no aplicable | | |
| Solubilidad | soluble en solventes orgánicos | | |
| Coeficiente de reparto n-octanol/agua | no aplicable | | |
| Presión de vapor | no determinado | | |
| Densidad y/o densidad relativa | 0,97 | | |
| Densidad de vapor relativa | 4 | | |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | | | |
|---|---|---|---|---|
| Tasa de evaporación | no determinado | | | |
| VOC (Directiva 2010/75/UE) | 67,91 % | - | 658,74 | gr/litro |
| VOC (carbono volátil) | 41,54 % | - | 402,95 | gr/litro |
| Propiedades explosivas | no aplicable | | | |
| Propiedades comburentes | no aplicable | | | |

## SECCIÓN 10. Estabilidad y reactividad

**10.1. Reactividad**

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

ACETATO DE 2-METOXI-1-METILETILO
Estable en las condiciones normales de uso y almacenamiento.
Con el aire, puede formar lentamente peróxidos, que explotan por aumento de la temperatura.

BUTAN-1-OL
Ataca diferentes tipos de materiales plásticos.
1-METOXI-2-PROPANOL
Disuelve diferentes materiales plásticos.Estable en las condiciones normales de uso y almacenamiento.
Absorbe y se disuelve en agua y en solventes orgánicos. Con el aire, puede formar lentamente peróxidos explosivos.

ACETATO DE ETILO
Se descompone lentamente con ácido acético y etanol, por la acción de la luz, el aire y el agua.

ACETATO DE N-BUTILO
Se descompone en contacto con: agua.

**10.2. Estabilidad química**

El producto es estable en las condiciones normales de uso y almacenamiento.

**10.3. Posibilidad de reacciones peligrosas**

Los vapores pueden formar mezclas explosivas con el aire.

METACRILATO DE METILO
Puede polimerizar en contacto con: amoníaco,peróxidos orgánicos,persulfatos.Riesgo de explosión por contacto con: peróxido de dibenzoilo,peróxido de di-ter butilo,propionaldehído.Puede reaccionar peligrosamente con: agentes oxidantes fuertes.Forma mezclas explosivas con: aire.
ACETATO DE 2-METOXI-1-METILETILO
Puede reaccionar violentamente con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
BUTAN-1-OL
Reacciona violentamente liberando calor en contacto con: aluminio,agentes oxidantes fuertes,agentes reductores fuertes,ácido clorhídrico.Forma mezclas explosivas con: aire.
1-METOXI-2-PROPANOL
Puede reaccionar peligrosamente con: agentes oxidantes fuertes,ácidos fuertes.
ACETATO DE ETILO
Riesgo de explosión por contacto con: metales alcalinos,hidruros,óleum.Puede reaccionar violentamente con: flúor,agentes oxidantes fuertes,ácido clorosulfúrico,ter-butóxido de potasio.Forma mezclas explosivas con: aire.
ACETATO DE N-BUTILO
Riesgo de explosión por contacto con: agentes oxidantes fuertes.Puede reaccionar peligrosamente con: hidróxidos alcalinos,ter-butóxido de potasio.Forma mezclas explosivas con: aire.

**10.4. Condiciones que deben evitarse**

Evite el recalentamiento. Evite la acumulación de cargas electrostáticas. Evite cualquier fuente de ignición.

METACRILATO DE METILO
Evitar la exposición a: calor,rayos UV.Evite el contacto con: sustancias oxidantes,sustancias reductoras,ácidos,bases.
BUTAN-1-OL
Evitar la exposición a: fuentes de calor,llamas libres.
1-METOXI-2-PROPANOL
Evitar la exposición a: aire.
ACETATO DE ETILO
Evitar la exposición a: luz,fuentes de calor,llamas libres.
ACETATO DE N-BUTILO
Evitar la exposición a: humedad,fuentes de calor,llamas libres.

**10.5. Materiales incompatibles**

ACETATO DE 2-METOXI-1-METILETILO
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
1-METOXI-2-PROPANOL
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
ACETATO DE ETILO
Incompatible con: ácidos,bases,oxidantes fuertes,ácido clorosulfúrico.

**SECCIÓN 10. Estabilidad y reactividad** ... / >>

ACETATO DE N-BUTILO
Incompatible con: agua,nitratos,oxidantes fuertes,ácidos,álcalis,cinc.

**10.6. Productos de descomposición peligrosos**

En caso de descomposición térmica o incendio, se pueden liberar gases y vapores potencialmente perjudiciales para la salud.

METACRILATO DE METILO
Calentado hasta su descomposición, libera: humos acres,aleaciones de cinc.

## SECCIÓN 11. Información toxicológica

En ausencia de datos toxicológicos experimentales sobre el producto, los eventuales peligros para la salud han sido evaluados en base a las propiedades de las sustancias contenidas, según los criterios previstos por la normativa de referencia para su clasificación.
Por lo tanto, se debe considerar la concentración de cada sustancia peligrosa eventualmente citada en la secc. 3, para evaluar los efectos toxicológicos derivados de la exposición al producto.

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

ACETATO DE 2-METOXI-1-METILETILO
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto.

Información sobre posibles vías de exposición

ACETATO DE 2-METOXI-1-METILETILO
TRABAJADORES: inhalación; contacto con la piel.

1-METOXI-2-PROPANOL
TRABAJADORES: inhalación; contacto con la piel.
POBLACIÓN: ingestión de alimentos o de agua contaminados; inhalación de aire ambiente; contacto con la piel de productos que contienen la sustancia.

ACETATO DE N-BUTILO
TRABAJADORES: inhalación; contacto con la piel.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

ACETATO DE 2-METOXI-1-METILETILO
Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre (INCR, 2010).

1-METOXI-2-PROPANOL
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto. Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre.

ACETATO DE N-BUTILO
En el hombre, los vapores de la sustancia provocan irritación de los ojos y de la nariz. En caso de exposición reiterada, se observa irritación cutánea, dermatosis (con sequedad y agrietamiento de la piel) y queratitis.

Efectos interactivos

ACETATO DE N-BUTILO
Se reporta un caso de intoxicación aguda en un obrero de 33 años durante una operación de limpieza de un tanque con un preparado que contenía xilenos, acetato de butilo y acetato de etilenglicol. El sujeto presentaba irritación conjuntival y del tracto respiratorio superior, somnolencia y trastornos de la coordinación motriz, que desaparecieron en 5 horas. Los síntomas se atribuyen a envenenamiento de xilenos mixtos y acetato de butilo, con un posible efecto sinérgico responsable de los efectos neurológicos. Casos de queratopatía vacuolar se reportan en trabajadores expuestos a una mezcla de vapores de acetato de butilo e isobutanol, pero con incertidumbre sobre la responsabilidad de un solvente particular (INRC, 2011).

TOXICIDAD AGUDA

| | |
|---|---|
| ETA (Inhalación) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Oral) de la mezcla: | No clasificado (ningún componente relevante) |

**SECCIÓN 11. Información toxicológica** ... / >>

ETA (Cutánea) de la mezcla: No clasificado (ningún componente relevante)

REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4-SEBACATO DE PIPERIDILO
LD50 (Cutánea): > 3000 mg/kg Rat
LD50 (Oral): > 3000 mg/kg Rat

DIPROPILENGLICOL
LD50 (Cutánea): > 5010 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalación vapores): > 2,34 mg/l/4h Rat

1,4 DIAZABICICLO OCTANO
LD50 (Cutánea): > 2000 mg/kg Rabbit
LD50 (Oral): > 700 mg/kg Rat

CARBALDEHÍDO 4-MORFOLINA
LD50 (Cutánea): > 18400 mg/kg Rat
LD50 (Oral): 7314 mg/kg Rat
LC50 (Inhalación vapores): > 5,319 mg/l/4h Rat

CLORURO DE LITIO
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): 526 mg/kg Rat
LC50 (Inhalación vapores): > 5,57 mg/l/4h Rat

CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 5000 mg/kg Rat Female

METACRILATO DE 2-HIDROXIETILO
LD50 (Cutánea): 5000 mg/kg Rabbit
LD50 (Oral): 2000 mg/kg Rat

HIDRATO DE SILICATO AMORFO
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 2000 mg/kg Rat
LC50 (Inhalación nieblas/polvos): > 2,2 mg/l/1h Rat

METACRILATO DE METILO
LD50 (Cutánea): 5000 mg/kg rabbit
LD50 (Oral): 7900 mg/kg rat
LC50 (Inhalación vapores): 29,8 mg/l/4h rat

ACETATO DE 2-METOXI-1-METILETILO
LD50 (Cutánea): 2000 mg/kg Rat
LD50 (Oral): > 5155 mg/kg Rat

BUTAN-1-OL
LD50 (Cutánea): 3430 mg/kg Rabbit
LD50 (Oral): 2292 mg/kg Rat
LC50 (Inhalación vapores): > 17,76 ppm/4h Rat

1-METOXI-2-PROPANOL
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalación vapores): > 6000 ppm/6h Mouse

ACETATO DE ETILO
LD50 (Cutánea): > 20000 mg/kg rabbit
LD50 (Oral): 5620 mg/kg rat
LC50 (Inhalación nieblas/polvos): 11,72 mg/l/4h rat

ACETATO DE N-BUTILO
LD50 (Cutánea): > 14000 mg/kg bw/d Rabbit
LD50 (Oral): 10736 mg/kg Rat
LC50 (Inhalación vapores): > 21,1 mg/l/4h Rat

## SECCIÓN 11. Información toxicológica ... / >>

CORROSIÓN O IRRITACIÓN CUTÁNEAS

La exposición repetida puede provocar sequedad o formación de grietas en la piel.

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

No responde a los criterios de clasificación para esta clase de peligro

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

Sensibilizante para la piel

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

Puede provocar somnolencia o vértigo

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

No responde a los criterios de clasificación para esta clase de peligro

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

**11.2. Información sobre otros peligros**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

Utilizar según las buenas prácticas de trabajo, evitando la dispersión del producto en el ambiente. Advertir a las autoridades competentes si el producto ha entrado en contacto con cursos de agua o si ha contaminado el suelo o la vegetación.

**12.1. Toxicidad**

| | |
|---|---|
| DIPROPILENGLICOL | |
| EC50 - Algas / Plantas Acuáticas | > 100 mg/l/72h Desmodesmus subspicatus |
| 1,4 DIAZABICICLO OCTANO | |
| EC50 - Algas / Plantas Acuáticas | 110 mg/l/72h |
| NOEC crónica algas / plantas acuáticas | 56 mg/l |
| CARBALDEHÍDO 4-MORFOLINA | |
| LC50 - Peces | 500 mg/l/96h |
| EC50 - Crustáceos | 500 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | 17440 mg/l/72h |
| EC10 Algas / Plantas Acuáticas | 10760 mg/l/72h |
| NOEC crónica crustáceos | 38 mg/l/21d |
| CLORURO DE LITIO | |
| LC50 - Peces | 158 mg/l/96h oncorhynchus mykiss |
| EC50 - Crustáceos | > 100 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 400 mg/l/72h |

## SECCIÓN 12. Información ecológica ... / >>

CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS

| | |
|---|---|
| LC50 - Peces | > 1000 mg/l/96h Onchorynchus mykiss |
| EC50 - Crustáceos | > 10000 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 1000 mg/l/72h Scenedesmus subspicatus |

METACRILATO DE 2-HIDROXIETILO

| | |
|---|---|
| LC50 - Peces | 100 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 380 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 345 mg/l/72h |
| NOEC crónica crustáceos | 24,1 mg/l/21d |
| NOEC crónica algas / plantas acuáticas | 160 mg/l/72h |

METACRILATO DE METILO

| | |
|---|---|
| LC50 - Peces | > 79 mg/l/96h oncorhynchus mykiss |
| EC50 - Crustáceos | 69 mg/l/48h daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 110 mg/l/72h Pseudokirchneriella subcapitata |
| NOEC crónica crustáceos | 37 mg/l Daphnia magna |
| NOEC crónica algas / plantas acuáticas | 49 mg/l Pseudokirchneriella subcapitata |

ACETATO DE 2-METOXI-1-METILETILO

| | |
|---|---|
| LC50 - Peces | > 100 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | > 500 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 1000 mg/l/72h selenastrum capricornutum |
| NOEC crónica peces | 47,5 mg/l/14d Oryzias latipes |
| NOEC crónica crustáceos | 100 mg/l/21d Daphnia |
| NOEC crónica algas / plantas acuáticas | 1000 mg/l/72h |

BUTAN-1-OL

| | |
|---|---|
| LC50 - Peces | 1376 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 1328 mg/l/48h Daphnia magna |

1-METOXI-2-PROPANOL

| | |
|---|---|
| LC50 - Peces | < 20800 mg/l/96h pimephales promelas |
| EC50 - Crustáceos | > 21100 mg/l/48h Daphnia |
| NOEC crónica peces | < 4640 mg/l/96h |
| NOEC crónica algas / plantas acuáticas | > 1000 mg/l/7d selenastrum capricornutum |

ACETATO DE ETILO

| | |
|---|---|
| LC50 - Peces | 230 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 165 mg/l/48h Daphnia cucullata |
| EC10 Algas / Plantas Acuáticas | 2,3 mg/l/48h |
| NOEC crónica peces | 9,65 mg/l/32d pimephales promelas |
| NOEC crónica crustáceos | 2,4 mg/l/21d Daphnia magna |
| NOEC crónica algas / plantas acuáticas | 100 mg/l/72h Scenedesmus subspicatus |

ACETATO DE N-BUTILO

| | |
|---|---|
| LC50 - Peces | 18 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 44 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 675 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica crustáceos | 23 mg/l/21d Daphnia magna |

### 12.2. Persistencia y degradabilidad

1,4 DIAZABICICLO OCTANO

| | |
|---|---|
| Solubilidad en agua | 610000 mg/l @ 25°C |

CARBALDEHÍDO 4-MORFOLINA

| | |
|---|---|
| Solubilidad en agua | 1000 g/l @ 20°C |

CLORURO DE LITIO

| | |
|---|---|
| Solubilidad en agua | 569 g/l @ 20°C |

METACRILATO DE 2-HIDROXIETILO

| | |
|---|---|
| Solubilidad en agua | 100 g/l @ 25°C |

## SECCIÓN 12. Información ecológica ... / >>

HIDRATO DE SILICATO AMORFO
Solubilidad en agua 0,1 - 100 mg/l
Degradabilidad: dato no disponible

METACRILATO DE METILO
Solubilidad en agua 15300 mg/l
Rápidamente degradable

ACETATO DE 2-METOXI-1-METILETILO
Solubilidad en agua 198 g/l 20°C
Rápidamente degradable

BUTAN-1-OL
Solubilidad en agua 66 g/l
Rápidamente degradable

1-METOXI-2-PROPANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

ACETATO DE ETILO
Solubilidad en agua > 10000 mg/l
Rápidamente degradable

ACETATO DE N-BUTILO
Solubilidad en agua 5300 mg/l
Rápidamente degradable

**12.3. Potencial de bioacumulación**

DIPROPILENGLICOL
Coeficiente de distribución: n-octanol/agua -0,46 @ 20°C

1,4 DIAZABICICLO OCTANO
Coeficiente de distribución: n-octanol/agua -0,49 @ 20°C
BCF 13

CARBALDEHÍDO 4-MORFOLINA
Coeficiente de distribución: n-octanol/agua -1,2 @ 23°C
BCF 1,9 l/kg

CLORURO DE LITIO
Coeficiente de distribución: n-octanol/agua -1

METACRILATO DE 2-HIDROXIETILO
Coeficiente de distribución: n-octanol/agua 0,42 Log Kow @ 25°C

HIDRATO DE SILICATO AMORFO
Coeficiente de distribución: n-octanol/agua 0,53

METACRILATO DE METILO
Coeficiente de distribución: n-octanol/agua 1,38

ACETATO DE 2-METOXI-1-METILETILO
Coeficiente de distribución: n-octanol/agua 1,2

BUTAN-1-OL
Coeficiente de distribución: n-octanol/agua 1 25 °C
BCF 3,16

1-METOXI-2-PROPANOL
Coeficiente de distribución: n-octanol/agua < 1

ACETATO DE ETILO
Coeficiente de distribución: n-octanol/agua 0,68
BCF 30

## SECCIÓN 12. Información ecológica ... / >>

ACETATO DE N-BUTILO
Coeficiente de distribución: n-octanol/agua 2,3
BCF 15,3

**12.4. Movilidad en el suelo**

DIPROPILENGLICOL
Coeficiente de distribución: suelo/agua 0,781 @ 20°C
1,4 DIAZABICICLO OCTANO
Coeficiente de distribución: suelo/agua 1,94 @ 20°C
METACRILATO DE METILO
Coeficiente de distribución: suelo/agua 0,94
BUTAN-1-OL
Coeficiente de distribución: suelo/agua 0,388
ACETATO DE N-BUTILO
Coeficiente de distribución: suelo/agua < 3

**12.5. Resultados de la valoración PBT y mPmB**

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

**12.6. Propiedades de alteración endocrina**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

**12.7. Otros efectos adversos**

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

**13.1. Métodos para el tratamiento de residuos**

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
El transporte de residuos puede estar sujeto al ADR.
La gestión de los residuos derivados de la utilización o dispersión de este producto debe organizarse de acuerdo con las normas de seguridad laboral. Véase la sección 8 para conocer la posible necesidad de EPI.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

**14.1. Número ONU o número ID**

ADR / RID, IMDG, IATA: ONU 1263

**14.2. Designación oficial de transporte de las Naciones Unidas**

ADR / RID: PINTURA
IMDG: PAINT
IATA: PAINT

## SECCIÓN 14. Información relativa al transporte ... / >>

### 14.3. Clase(s) de peligro para el transporte

| | | |
|---|---|---|
| ADR / RID: | Clase: 3 | Etiqueta: 3 |
| IMDG: | Clase: 3 | Etiqueta: 3 |
| IATA: | Clase: 3 | Etiqueta: 3 |



### 14.4. Grupo de embalaje

ADR / RID, IMDG, IATA: III

### 14.5. Peligros para el medio ambiente

ADR / RID: NO
IMDG: no contaminante marino
IATA: NO

### 14.6. Precauciones particulares para los usuarios

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 30 | Cantidades limitadas: 5 L | Código de restricción en túnel: (D/E) |
| | Disposiciónes especiales: 163, 367, 650 | | |
| IMDG: | EMS: F-E, S-E | Cantidades limitadas: 5 L | |
| IATA: | Cargo: | Cantidad máxima: 220 L | Instrucciones embalaje: 366 |
| | Pasajeros: | Cantidad máxima: 60 L | Instrucciones embalaje: 355 |
| | Disposiciónes especiales: | A3, A72, A192 | |

### 14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

### 15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla

Categoría Seveso - Directivo 2012/18/UE: P5c

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos
no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

## SECCIÓN 15. Información reglamentaria ... / >>

Controles sanitarios
Los trabajadores expuestos a este agente químico no deben ser sometidos a la vigilancia sanitaria, siempre y cuando los resultados de la evaluación de los riesgos demuestren que existe sólo un moderado riesgo para la seguridad y la salud de los trabajadores y que las medidas previstas por la directiva 98/24/CE estén siendo respetadas y sean suficientes para reducir el riesgo.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 1: Poco peligroso para las aguas.

**15.2. Evaluación de la seguridad química**

No se ha realizado una evaluación de seguridad química para la mezcla/las sustancias indicadas en la sección 3.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 2** | Líquidos inflamables, categoría 2 |
| **Flam. Liq. 3** | Líquidos inflamables, categoría 3 |
| **Flam. Sol. 2** | Sólidos inflamables, categoría 2 |
| **Repr. 2** | Toxicidad para la reproducción, categoría 2 |
| **Acute Tox. 4** | Toxicidad aguda, categoría 4 |
| **Eye Dam. 1** | Lesiones oculares graves, categoría 1 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **Skin Irrit. 2** | Irritación cutáneas, categoría 2 |
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **Skin Sens. 1** | Sensibilización cutánea, categoría 1 |
| **Skin Sens. 1A** | Sensibilización cutánea, categoría 1A |
| **Aquatic Acute 1** | Peligroso para el medio ambiente acuático, toxicidad aguda, categoría 1 |
| **Aquatic Chronic 1** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 1 |
| **H225** | Líquido y vapores muy inflamables. |
| **H226** | Líquidos y vapores inflamables. |
| **H228** | Sólido inflamable. |
| **H361f** | Se sospecha que perjudica a la fertilidad. |
| **H302** | Nocivo en caso de ingestión. |
| **H318** | Provoca lesiones oculares graves. |
| **H319** | Provoca irritación ocular grave. |
| **H315** | Provoca irritación cutánea. |
| **H335** | Puede irritar las vías respiratorias. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **H400** | Muy tóxico para los organismos acuáticos. |
| **H410** | Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico
- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos
- REACH: Reglamento (CE) 1907/2006

## SECCIÓN 16. Otra información ... / >>

- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral
- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

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1. Reglamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)
6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)
8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
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11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
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15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
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26. Reglamento delegado (UE) 2024/197 (XXI Atp. CLP)
27. Reglamento delegado (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.
Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

Modificaciones con respecto a la revisión precedente:
Han sido realizadas variaciones en las siguientes secciones:

**SECCIÓN 16. Otra información** ... / >>

02 / 03 / 08 / 09 / 11 / 12 / 13 / 14.

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

Código: **VPACB42680**
Denominación **FIN. ACR. LOW EMISS. B426 Op.80**

UFI : **F3F8-J0XF-X00V-KGND**

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Producto de pintura** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

Razón social: **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Dirección: **Via Bedeschi, 25**
Localidad y Estado: **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

dirección electrónica de la persona competente,
responsable de la ficha de datos de seguridad **gianluca.cerina@icro.it**

Proveedor: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia**

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Líquidos inflamables, categoría 3 | H226 | Líquidos y vapores inflamables. |
| Sensibilización cutánea, categoría 1A | H317 | Puede provocar una reacción alérgica en la piel. |
| Toxicidad específica en determinados órganos - exposiciones única, categoría 3 | H336 | Puede provocar somnolencia o vértigo. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro:



Palabras de advertencia: Atención

## SECCIÓN 2. Identificación de los peligros ... / >>

Indicaciones de peligro:

| | |
|---|---|
| **H226** | Líquidos y vapores inflamables. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

Consejos de prudencia:

| | |
|---|---|
| **P210** | Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar. |
| **P280** | Llevar guantes / prendas / gafas / máscara de protección. |
| **P370+P378** | En caso de incendio: utilice polvo para extinguir. |
| **P261** | Evitar respirar el polvo / el humo / el gas / la niebla / los vapores / el aerosol. |

**Contiene:** REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4- SEBACATO DE PIPERIDILO
ACETATO DE N-BUTILO
CARBALDEHÍDO 4-MORFOLINA
METACRILATO DE METILO

### 2.3. Otros peligros

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

El producto no contiene sustancias con propiedades de alteración del sistema endocrino en concentración ≥ 0,1%.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.2. Mezclas

Contiene:

| Identificación | | x = Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|---|
| **ACETATO DE N-BUTILO** | | | |
| *INDEX* | *607-025-00-1* | 50 ≤ x < 60 | **Flam. Liq. 3 H226, STOT SE 3 H336, EUH066** |
| *CE* | *204-658-1* | | |
| *CAS* | *123-86-4* | | |
| *Reg. REACH* | *01-2119485493-XXXX* | | |
| **ACETATO DE 2-METOXI-1-METILETILO** | | | |
| *INDEX* | *607-195-00-7* | 9 ≤ x < 14 | **Flam. Liq. 3 H226** |
| *CE* | *203-603-9* | | |
| *CAS* | *108-65-6* | | |
| *Reg. REACH* | *01-2119475791-XXXX* | | |
| **ACETATO DE ETILO** | | | |
| *INDEX* | *607-022-00-5* | 0,35 ≤ x < 0,4 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *CE* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *Reg. REACH* | *01-2119475103-XXXX* | | |
| **CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS** | | | |
| *INDEX* | | 0,2 ≤ x < 0,25 | |
| *CE* | *232-315-6* | | |
| *CAS* | *8002-74-2* | | |
| *Reg. REACH* | *01-2119488076-30-XXXX* | | |
| **METACRILATO DE METILO** | | | |
| *INDEX* | *607-035-00-6* | 0,2 ≤ x < 0,25 | **Flam. Liq. 2 H225, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317, Nota de clasificación según el anexo VI del Reglamento CLP: D** |
| *CE* | *201-297-1* | | |
| *CAS* | *80-62-6* | | |
| *Reg. REACH* | *01-2119452498-XXXX* | | |
| **BUTAN-1-OL** | | | |
| *INDEX* | *603-004-00-6* | 0,2 ≤ x < 0,25 | **Flam. Liq. 3 H226, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336** |
| *CE* | *200-751-6* | | **ETA Oral: 500 mg/kg** |
| *CAS* | *71-36-3* | | |
| *Reg. REACH* | *01-2119484630-XXXX* | | |

## SECCIÓN 3. Composición/información sobre los componentes ... / >>

**REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4-SEBACATO DE PIPERIDILO**
*INDEX* 0,15 ≤ x < 0,2 **Repr. 2 H361f, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
*CE* *915-687-0*
*CAS* *1065336-91-5*
*Reg. REACH* *01-2119491304-40-XXXX*

**CARBALDEHÍDO 4-MORFOLINA**
*INDEX* 0,15 ≤ x < 0,2 **Skin Sens. 1 H317**
*CE* *224-518-3*
*CAS* *4394-85-8*
*Reg. REACH* *01-2119987993-XXXX*

**DIPROPILENGLICOL**
*INDEX* 0,1 ≤ x < 0,15
*CE* *246-770-3*
*CAS* *25265-71-8*
*Reg. REACH* *01-2119456811-XXXX*

**1,4 DIAZABICICLO OCTANO**
*INDEX* 0,05 ≤ x < 0,09 **Flam. Sol. 2 H228, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315**
*CE* *205-999-9* **LD50 Oral: 1420 mg/kg**
*CAS* *280-57-9*
*Reg. REACH* *01-2119980944-XXXX*

**METACRILATO DE 2-HIDROXIETILO**
*INDEX* *607-124-00-X* 0,02 ≤ x < 0,06 **Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Nota de clasificación según el anexo VI del Reglamento CLP: D**
*CE* *212-782-2*
*CAS* *868-77-9*
*Reg. REACH* *01-2119490169-XXXX*

**1-METOXI-2-PROPANOL**
*INDEX* *603-064-00-3* 0,02 ≤ x < 0,06 **Flam. Liq. 3 H226, STOT SE 3 H336**
*CE* *203-539-1*
*CAS* *107-98-2*
*Reg. REACH* *01-2119457435-XXXX*

**TRIMETILOLPROPANO**
*INDEX* 0 < x < 0,03 **Repr. 2 H361fd**
*CE* *201-074-9*
*CAS* *77-99-6*
*Reg. REACH* *01-2119486799-XXXX*

**CLORURO DE LITIO**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315**
*CE* *231-212-3* **LD50 Oral: 526 mg/kg**
*CAS* *7447-41-8*
*Reg. REACH* *01-2119560574-XXXX*

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Quite al accidentado las eventuales lentes de contacto, si la situación permite realizar esta operación fácilmente. Lave inmediatamente con abundante agua durante al menos 15 minutos, abriendo bien los párpados. Consulte inmediatamente a un médico.
PIEL: Quitar inmediatamente todas las prendas contaminadas. Lave inmediatamente con abundante agua corriente (y, si es posible, con jabón). Consulte inmediatamente a un médico. Evite ulteriores contactos con las prendas contaminadas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consulte inmediatamente a un médico.
INHALACIÓN: Lleve al sujeto al aire libre, lejos del lugar del accidente. En caso de síntomas respiratorios (tos, dispnea, respiración dificultosa, asma), mantenga al accidentado en una posición que facilite la respiración. Si es necesario, administre oxígeno. Si la respiración cesa, practique respiración artificial. Consulte inmediatamente a un médico.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se

**SECCIÓN 4. Primeros auxilios** ... / >>

remite a la sección 8.

**4.2. Principales síntomas y efectos, agudos y retardados**

No hay información específica sobre síntomas y efectos provocados por el producto.

EFECTOS RETARDADOS: Sobre la base de los datos disponibles, no se conocen casos de efectos retardados después de la exposición a este producto.

**4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

Si no se siente bien, comuníquese con un CENTRO DE TOXICOLOGÍA o con un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

**5.1. Medios de extinción**

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los siguientes: anhídrido carbónico, espuma y polvo químico. Para las pérdidas y derrames de producto que no se hayan incendiado, el agua nebulizada puede ser utilizada para dispersar los vapores inflamables y proteger a las personas encargadas de detener la pérdida.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
No use chorros de agua. El agua no es eficaz para extinguir el incendio; sin embargo, puede usarse para enfriar los recipientes cerrados expuestos a las llamas, previniendo estallidos y explosiones.

**5.2. Peligros específicos derivados de la sustancia o la mezcla**

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Se puede crear sobrepresión en los recipientes expuestos al fuego, con peligro de explosión. Evite respirar los productos de la combustión.

METACRILATO DE METILO
El calor puede provocar la polimerización del producto, incluso con efectos explosivos.

**5.3. Recomendaciones para el personal de lucha contra incendios**

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

**6.1. Precauciones personales, equipo de protección y procedimientos de emergencia**

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

Aleje a las personas desprovistas de equipo. Utilice un dispositivo antideflagrante. Elimine toda fuente de ignición (cigarrillos, llamas, chispas, etc.) o de calor en el área en que se ha verificado la pérdida.

**6.2. Precauciones relativas al medio ambiente**

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

**6.3. Métodos y material de contención y de limpieza**

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las

**SECCIÓN 6. Medidas en caso de vertido accidental** ... / >>

disposiciones del punto 13.

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

**7.1. Precauciones para una manipulación segura**

Mantenga el producto lejos de fuentes de calor, chispas y llamas libres; no fume ni use cerillas o mecheros. Sin una adecuada ventilación, los vapores podrían acumularse en el suelo y, en presencia de una fuente de ignición, incendiarse incluso a distancia, con el peligro de un retorno de llama. Evite la acumulación de cargas electrostáticas. En caso de embalajes de grandes dimensiones, conecte una toma de tierra y utilice calzado antiestático durante las operaciones de trasiego. La agitación enérgica y el paso con fuerza del líquido en las tuberías y aparatos pueden causar la formación y acumulación de cargas electrostáticas. Para evitar el peligro de incendio y explosión, evite el uso de aire comprimido durante su movimiento. Abra los recipientes con cuidado, ya que pueden estar bajo presión. No coma, beba ni fume durante el uso. Evite la dispersión del producto en el ambiente.

**7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

Conserve el producto solamente en el envase original. Conserve los recipientes cerrados, en un lugar bien ventilado, protegidos de la acción directa de los rayos del sol. Conserve el producto en un lugar fresco y bien ventilado, lejos de fuentes de calor, llamas libres, chispas y otras fuentes de ignición. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

ACETATO DE 2-METOXI-1-METILETILO
Conservar en atmósfera inerte y protegido de la humedad, ya que se hidroliza fácilmente.

Clase de almacenamiento TRGS 510 (Alemania): 3

**7.3. Usos específicos finales**

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

**8.1. Parámetros de control**

Referencias normativas:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

| | | |
|---|---|---|
| | | agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | TLV-ACGIH | ACGIH 2025 |

**REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4- SEBACATO DE PIPERIDILO**

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0022 | mg/l |
| Valor de referencia en agua marina | 0,00022 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,05 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,11 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,009 | mg/l |
| Valor de referencia para los microorganismos STP | 1 | mg/l |
| Valor de referencia para el medio terrestre | 0,21 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 0,18 mg/kg bw/d | | | | |
| Inhalación | | | | 0,31 mg/m3 | | | | 1,27 mg/m3 |
| Dérmica | | | | 0,9 mg/kg bw/d | | | | 1,8 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### DIPROPILENGLICOL

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 100 | | 200 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,1 | mg/l |
| Valor de referencia en agua marina | 0,01 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,238 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0238 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1 | mg/l |
| Valor de referencia para los microorganismos STP | 1000 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 313 | mg/kg |
| Valor de referencia para el medio terrestre | 0,0253 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 24 mg/kg bw/d | | | | |
| Inhalación | | | | 70 mg/m3 | | | | 238 mg/m3 |
| Dérmica | | | | 51 mg/kg bw/d | | | | 84 mg/kg bw/d |

### 1,4 DIAZABICICLO OCTANO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,1 | mg/l |
| Valor de referencia en agua marina | 0,01 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,13 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1 | mg/l |
| Valor de referencia para los microorganismos STP | 200 | mg/l |
| Valor de referencia para el medio terrestre | 0,19 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | | | 0,5 mg/kg bw/d | | | | |
| Inhalación | | | | 1,46 mg/m3 | | | | 8,24 mg/m3 |
| Dérmica | | | | 0,50 mg/kg bw/d | | | | 1,4 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### CARBALDEHÍDO 4-MORFOLINA

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,5 | mg/l |
| Valor de referencia en agua marina | 0,05 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,85 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,185 | mg/kg |
| Valor de referencia para el agua marina, liberación intermitente | 5 | mg/l |
| Valor de referencia para los microorganismos STP | 2000 | mg/l |
| Valor de referencia para el medio terrestre | 0,0764 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 4,17 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | 13,3 mg/m3 | 8,93 mg/m3 | NPI | NPI | 13,3 mg/m3 | 50,3 mg/m3 |
| Dérmica | NPI | NPI | MED | 4,17 mg/kg bw/d | NPI | NPI | MED | 11,7 mg/kg bw/d |

### CLORURO DE LITIO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10,4 | mg/l |
| Valor de referencia en agua marina | 1,04 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 49,9 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 4,99 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 10,4 | mg/l |
| Valor de referencia para los microorganismos STP | 140,2 | mg/l |
| Valor de referencia para el medio terrestre | 4,13 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 21,96 mg/kg/d | | 7,32 mg/kg/d | | | | |
| Inhalación | | 30 mg/m3 | | 10 mg/m3 | | 30 mg/m3 | | 10 mg/m3 |
| Dérmica | | 50 mg/kg/d | | 72,3 mg/kg/d | | 100 mg/kg/d | | 73,2 mg/kg/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

### TRIMETILOLPROPANO

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| NGV/KGV | SWE | 5 | | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | |
|---|---|
| Valor de referencia en agua dulce | NPI |
| Valor de referencia en agua marina | NPI |
| Valor de referencia para sedimentos en agua dulce | NPI |
| Valor de referencia para sedimentos en agua marina | NPI |
| Valor de referencia para el agua, liberación intermitente | NPI |
| Valor de referencia para los microorganismos STP | NPI |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | NPI |
| Valor de referencia para el medio terrestre | NPI |
| Valor de referencia para la atmósfera | NPI |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,340 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 0,580 mg/m3 | NPI | NPI | NPI | 3,3 mg/m3 |
| Dérmica | NPI | NPI | NPI | 0,340 mg/kg bw/d | NPI | NPI | NPI | 0,940 mg/kg bw/d |

### CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV-ACGIH | | 2 | | | | |

### METACRILATO DE 2-HIDROXIETILO

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,482 | mg/l |
| Valor de referencia en agua marina | 0,0482 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 3,79 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 3,79 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 0,476 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 0,830 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 1,45 mg/m3 | NPI | NPI | NPI | 4,9 mg/m3 |
| Dérmica | NPI | NPI | NPI | 0,830 mg/kg bw/d | NPI | NPI | NPI | 1,39 mg/kg |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**METACRILATO DE METILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | | 50 | | 100 | | |
| TLV | CZE | 50 | 12 | 150 | 36 | | |
| AGW | DEU | 210 | 50 | 420 | 100 | | |
| MAK | DEU | 210 | 50 | 420 | 100 | | |
| TLV | DNK | 102 | 25 | | 100 | PIEL | E |
| VLA | ESP | | 50 | | 100 | | |
| TLV | EST | | 50 | | 100 | | |
| VLEP | FRA | 205 | 50 | 410 | 100 | | |
| TLV | GRC | | 50 | | 100 | | |
| AK | HUN | 208 | 50 | 415 | 100 | PIEL | |
| GVI/KGVI | HRV | 50 | | 100 | | PIEL | |
| VLEP | ITA | | 50 | | 100 | | |
| RV | LVA | 10 | | | | | |
| TLV | NOR | 100 | 25 | 400 | 100 | | |
| TGG | NLD | 205 | | 410 | | | |
| VLE | PRT | | 50 | | 100 | | |
| NDS/NDSCh | POL | 100 | | 300 | | | |
| TLV | ROU | 205 | 50 | 410 | 100 | | |
| ПДК | RUS | 10 | | 20 | | | п |
| NGV/KGV | SWE | 200 | 50 | 400 | 100 | | |
| NPEL | SVK | | 50 | | 100 | | |
| MV | SVN | 210 | 50 | 420 | 100 | | |
| ESD | TUR | | 50 | | 100 | | |
| WEL | GBR | 208 | 50 | 416 | 100 | | |
| OEL | EU | | 50 | | 100 | | |
| TLV-ACGIH | | 205 | 50 | 410 | 100 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,94 | mg/l |
| Valor de referencia en agua marina | 0,094 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 10,2 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 10,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,69 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para el medio terrestre | 1,48 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 8,2 mg/kg bw/d | | | | |
| Inhalación | 208 mg/m3 | NPI | 104 mg/m3 | 74,3 mg/m3 | 416 mg/m3 | NPI | 208 mg/m3 | 384,4 mg/m3 |
| Dérmica | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 8,2 mg/kg/d | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 13,67 mg/kg |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**ACETATO DE 2-METOXI-1-METILETILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 275 | 50 | 550 | 100 | PIEL | |
| TLV | CZE | 270 | 49,14 | 550 | 100,1 | PIEL | |
| AGW | DEU | 270 | 50 | 270 | 50 | | |
| MAK | DEU | 270 | 50 | 270 | 50 | | |
| TLV | DNK | 275 | 50 | 550 | 100 | PIEL | E |
| VLA | ESP | 275 | 50 | 550 | 100 | PIEL | |
| TLV | EST | 275 | 50 | 550 | 100 | PIEL | |
| VLEP | FRA | 275 | 50 | 550 | 100 | PIEL | |
| TLV | GRC | 275 | 50 | 550 | 100 | | |
| AK | HUN | 275 | 50 | 550 | 100 | | |
| GVI/KGVI | HRV | 275 | 50 | 550 | 100 | PIEL | |
| VLEP | ITA | 275 | 50 | 550 | 100 | PIEL | |
| RV | LVA | 275 | 50 | 550 | 100 | PIEL | |
| TLV | NOR | 270 | 50 | | | PIEL | |
| TGG | NLD | 550 | | | | | |
| VLE | PRT | 275 | 50 | 550 | 100 | PIEL | |
| NDS/NDSCh | POL | 260 | | 520 | | PIEL | |
| TLV | ROU | 275 | 50 | 550 | 100 | PIEL | |
| ПДК | RUS | | | 10 | | | п |
| NGV/KGV | SWE | 275 | 50 | 550 | 100 | PIEL | |
| NPEL | SVK | 275 | 50 | 550 | 100 | PIEL | |
| MV | SVN | 275 | 50 | 550 | 100 | PIEL | |
| ESD | TUR | 275 | 50 | 550 | 100 | PIEL | |
| WEL | GBR | 274 | 50 | 548 | 100 | PIEL | |
| OEL | EU | 275 | 50 | 550 | 100 | PIEL | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,635 | mg/l |
| Valor de referencia en agua marina | 0,0635 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 3,29 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,329 | mg/kg |
| Valor de referencia para el agua marina, liberación intermitente | 6,35 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 0,29 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 500 mg/kg bw/d | | 36 mg/kg | | | | |
| Inhalación | NPI | NPI | 33 mg/m3 | 33 mg/m3 | 550 mg/m3 | NPI | NPI | 275 mg/m3 |
| Dérmica | NPI | NPI | NPI | 320 mg/kg | NPI | NPI | NPI | 796 mg/kg |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**BUTAN-1-OL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 100 | | 150 | | |
| TLV | CZE | 300 | 97,5 | 600 | 195 | |
| AGW | DEU | 310 | 100 | 310 | 100 | |
| MAK | DEU | 310 | 100 | 310 | 100 | |
| TLV | DNK | | | 150 (C) | 50 (C) | PIEL |
| VLA | ESP | 61 | 20 | 154 | 50 | |
| TLV | EST | 45 | 15 | 90 (C) | 30 (C) | PIEL |
| VLEP | FRA | | | 150 | 50 | |
| TLV | GRC | 300 | 100 | 300 | 100 | |
| AK | HUN | 45 | | 90 | | PIEL |
| GVI/KGVI | HRV | | | 154 | 50 | PIEL |
| RV | LVA | 10 | | | | |
| TLV | NOR | 75 | 25 | | | PIEL |
| TGG | NLD | | | 45 | | |
| NDS/NDSCh | POL | 50 | | 150 | | PIEL |
| TLV | ROU | 100 | 33 | 200 | 66 | |
| ПДК | RUS | 10 | | 30 | | п |
| NGV/KGV | SWE | 45 | 15 | 90 | 30 | PIEL |
| NPEL | SVK | 310 | 100 | | | |
| MV | SVN | 310 | 100 | 310 | 100 | |
| ESD | TUR | 300 | 100 | | | |
| WEL | GBR | | | 154 | 50 | PIEL |
| TLV-ACGIH | | 61 | 20 | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,082 | mg/l |
| Valor de referencia en agua marina | 0,0082 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,324 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,032 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 2,25 | mg/l |
| Valor de referencia para los microorganismos STP | 2476 | mg/l |
| Valor de referencia para el medio terrestre | 0,017 | mg/kg |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 1,562 mg/kg bw/d | | | | |
| Inhalación | | NPI | 155 mg/m3 | 55,357 mg/m3 | | NPI | 310 mg/m3 | |
| Dérmica | | NPI | | 3,125 mg/kg bw/d | | NPI | | |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**1-METOXI-2-PROPANOL**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 375 | 100 | 568 | 150 | PIEL | |
| TLV | CZE | 270 | 72,09 | 550 | 146,85 | PIEL | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | PIEL | E |
| VLA | ESP | 375 | 100 | 568 | 150 | PIEL | |
| TLV | EST | 375 | 100 | 568 | 150 | PIEL | |
| VLEP | FRA | 188 | 50 | 375 | 100 | PIEL | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | PIEL | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | PIEL | |
| RV | LVA | 375 | 100 | 568 | 150 | PIEL | |
| TLV | NOR | 180 | 50 | | | PIEL | |
| TGG | NLD | 375 | | 563 | | PIEL | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | PIEL | |
| TLV | ROU | 375 | 100 | 568 | 150 | PIEL | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | PIEL | |
| NPEL | SVK | 375 | 100 | 568 | 150 | PIEL | |
| MV | SVN | 375 | 100 | 568 | 150 | PIEL | |
| ESD | TUR | 375 | 100 | 568 | 150 | PIEL | |
| WEL | GBR | 375 | 100 | 560 | 150 | PIEL | |
| OEL | EU | 375 | 100 | 568 | 150 | PIEL | |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 10 | mg/l |
| Valor de referencia en agua marina | 1 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 52,3 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 5,2 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 100 | mg/l |
| Valor de referencia para los microorganismos STP | 100 | mg/l |
| Valor de referencia para el medio terrestre | 4,59 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalación | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Dérmica | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

**ACETATO DE ETILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | | 1468 | | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| ПДК | RUS | 50 | | 200 | | п |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| TLV-ACGIH | | 1441 | 400 | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,24 | mg/l |
| Valor de referencia en agua marina | 0,024 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,15 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,115 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1,65 | mg/l |
| Valor de referencia para los microorganismos STP | 650 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 200 | mg/kg |
| Valor de referencia para el medio terrestre | 0,148 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalación | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Dérmica | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ACETATO DE N-BUTILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 710 | | 950 | | |
| TLV | CZE | 241 | | 723 | | |
| AGW | DEU | 300 | 62 | 600 | 124 | |
| MAK | DEU | 480 | 100 | 960 | 200 | |
| TLV | DNK | 241 | 50 | 723 | 150 | E |
| VLA | ESP | 241 | 50 | 723 | 150 | |
| TLV | EST | 500 | 100 | 700 | 150 | |
| VLEP | FRA | 241 | 50 | 723 | 150 | |
| TLV | GRC | 710 | 150 | 950 | 200 | |
| AK | HUN | 241 | 50 | 723 | 150 | |
| GVI/KGVI | HRV | 241 | 50 | 723 | 150 | |
| VLEP | ITA | 241 | 50 | 723 | 150 | |
| RV | LVA | 200 | | | | |
| TLV | NOR | | 75 | | | |
| TGG | NLD | 150 | | | | |
| VLE | PRT | 241 | 50 | 723 | 150 | |
| NDS/NDSCh | POL | 240 | | 720 | | |
| TLV | ROU | 241 | 50 | 723 | 150 | |
| ПДК | RUS | | | 0,1 | | п |
| NGV/KGV | SWE | 241 | 50 | 723 (C) | 150 (C) | |
| NPEL | SVK | 241 | 50 | 723 | 150 | |
| MV | SVN | 300 | 62 | 600 | 124 | |
| ESD | TUR | 241 | 50 | 723 | 150 | |
| WEL | GBR | 724 | 150 | 966 | 200 | |
| OEL | EU | 241 | 50 | 723 | 150 | |
| TLV-ACGIH | | | 50 | | 150 | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,18 | mg/l |
| Valor de referencia en agua marina | 0,018 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,981 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,0981 | mg/kg |
| Valor de referencia para el agua marina, liberación intermitente | 0,36 | mg/l |
| Valor de referencia para los microorganismos STP | 35,6 | mg/l |
| Valor de referencia para el medio terrestre | 0,0903 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 2 mg/kg/d | | 2 mg/kg/d | | | | |
| Inhalación | 300 mg/m3 | 300 mg/m3 | 35,7 mg/m3 | 35,7 mg/m3 | 600 mg/m3 | 600 mg/m3 | 300 mg/m3 | 300 mg/m3 |
| Dérmica | NPI | 6 mg/kg/d | NPI | 6 mg/kg/d | NPI | 11 mg/kg/d | NPI | 11 mg/kg/d |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
Durante la elección de los equipos protectores personales pedir consejo a los proveedores de sustancias químicas.
Los dispositivos de protección individual deben ser conformes a las normativas vigentes y deberán llevar el marcado CE.
Prever un sistema para el lavado ocular y una ducha de emergencia.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.
PROTECCIÓN DE LA PIEL

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría II (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.
Evaluar la posibilidad de proporcionar indumentaria antiestática en caso de que en el ambiente de trabajo exista riesgo de explosión.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del trabajador. Se aconseja llevar una mascarilla con filtro de tipo A.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.
CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | incoloro | | |
| Olor | típico de disolvente | | |
| Punto de fusión / punto de congelación | -77 | °C | |
| Punto inicial de ebullición | 126 | °C | |
| Inflamabilidad | no aplicable | | |
| Límites inferior de explosividad | 1,7 | % (v/v) | Temperatura: 20 °C |
| Límites superior de explosividad | 7,6 | % (v/v) | Temperatura: 20 °C |
| Punto de inflamación | 30 | °C | |
| Temperatura de auto-inflamación | 421 | °C | |
| Temperatura de descomposición | no aplicable | | |
| pH | no aplicable | | |
| Viscosidad cinemática | no disponible | | |
| Viscosidad dinámica | 80.000 cPs | | |
| Solubilidad | soluble en solventes orgánicos | | |
| Coeficiente de reparto n-octanol/agua | no aplicable | | |
| Presión de vapor | no determinado | | |
| Densidad y/o densidad relativa | 0,967 | g/cm3 | Temperatura: 20 °C |
| Densidad de vapor relativa | 3,6 | | |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | | | |
|---|---|---|---|---|
| VOC (Directiva 2010/75/UE) | 68,40 % | - | 661,41 | gr/litro |
| VOC (carbono volátil) | 41,54 % | - | 401,66 | gr/litro |

## SECCIÓN 10. Estabilidad y reactividad

### 10.1. Reactividad

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

ACETATO DE 2-METOXI-1-METILETILO
Estable en las condiciones normales de uso y almacenamiento.
Con el aire, puede formar lentamente peróxidos, que explotan por aumento de la temperatura.

## SECCIÓN 10. Estabilidad y reactividad ... / >>

BUTAN-1-OL
Ataca diferentes tipos de materiales plásticos.
1-METOXI-2-PROPANOL
Disuelve diferentes materiales plásticos.Estable en las condiciones normales de uso y almacenamiento.
Absorbe y se disuelve en agua y en solventes orgánicos. Con el aire, puede formar lentamente peróxidos explosivos.

ACETATO DE ETILO
Se descompone lentamente con ácido acético y etanol, por la acción de la luz, el aire y el agua.

ACETATO DE N-BUTILO
Se descompone en contacto con: agua.

**10.2. Estabilidad química**

El producto es estable en las condiciones normales de uso y almacenamiento.

**10.3. Posibilidad de reacciones peligrosas**

Los vapores pueden formar mezclas explosivas con el aire.

METACRILATO DE METILO
Puede polimerizar en contacto con: amoníaco,peróxidos orgánicos,persulfatos.Riesgo de explosión por contacto con: peróxido de dibenzoilo,peróxido de di-ter butilo,propionaldehído.Puede reaccionar peligrosamente con: agentes oxidantes fuertes.Forma mezclas explosivas con: aire.
ACETATO DE 2-METOXI-1-METILETILO
Puede reaccionar violentamente con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
BUTAN-1-OL
Reacciona violentamente liberando calor en contacto con: aluminio,agentes oxidantes fuertes,agentes reductores fuertes,ácido clorhídrico.Forma mezclas explosivas con: aire.
1-METOXI-2-PROPANOL
Puede reaccionar peligrosamente con: agentes oxidantes fuertes,ácidos fuertes.
ACETATO DE ETILO
Riesgo de explosión por contacto con: metales alcalinos,hidruros,óleum.Puede reaccionar violentamente con: flúor,agentes oxidantes fuertes,ácido clorosulfúrico,ter-butóxido de potasio.Forma mezclas explosivas con: aire.
ACETATO DE N-BUTILO
Riesgo de explosión por contacto con: agentes oxidantes fuertes.Puede reaccionar peligrosamente con: hidróxidos alcalinos,ter-butóxido de potasio.Forma mezclas explosivas con: aire.

**10.4. Condiciones que deben evitarse**

Evite el recalentamiento. Evite la acumulación de cargas electrostáticas. Evite cualquier fuente de ignición.

METACRILATO DE METILO
Evitar la exposición a: calor,rayos UV.Evite el contacto con: sustancias oxidantes,sustancias reductoras,ácidos,bases.
BUTAN-1-OL
Evitar la exposición a: fuentes de calor,llamas libres.
1-METOXI-2-PROPANOL
Evitar la exposición a: aire.
ACETATO DE ETILO
Evitar la exposición a: luz,fuentes de calor,llamas libres.
ACETATO DE N-BUTILO
Evitar la exposición a: humedad,fuentes de calor,llamas libres.

**10.5. Materiales incompatibles**

ACETATO DE 2-METOXI-1-METILETILO
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
1-METOXI-2-PROPANOL
Incompatible con: sustancias oxidantes,ácidos fuertes,metales alcalinos.
ACETATO DE ETILO
Incompatible con: ácidos,bases,oxidantes fuertes,ácido clorosulfúrico.
ACETATO DE N-BUTILO
Incompatible con: agua,nitratos,oxidantes fuertes,ácidos,álcalis,cinc.

**10.6. Productos de descomposición peligrosos**

En caso de descomposición térmica o incendio, se pueden liberar gases y vapores potencialmente perjudiciales para la salud.

METACRILATO DE METILO
Calentado hasta su descomposición, libera: humos acres,aleaciones de cinc.

## SECCIÓN 11. Información toxicológica

En ausencia de datos toxicológicos experimentales sobre el producto, los eventuales peligros para la salud han sido evaluados en base a las propiedades de las sustancias contenidas, según los criterios previstos por la normativa de referencia para su clasificación.
Por lo tanto, se debe considerar la concentración de cada sustancia peligrosa eventualmente citada en la secc. 3, para evaluar los efectos toxicológicos derivados de la exposición al producto.

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

ACETATO DE 2-METOXI-1-METILETILO
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto.

Información sobre posibles vías de exposición

ACETATO DE 2-METOXI-1-METILETILO
TRABAJADORES: inhalación; contacto con la piel.

1-METOXI-2-PROPANOL
TRABAJADORES: inhalación; contacto con la piel.
POBLACIÓN: ingestión de alimentos o de agua contaminados; inhalación de aire ambiente; contacto con la piel de productos que contienen la sustancia.

ACETATO DE N-BUTILO
TRABAJADORES: inhalación; contacto con la piel.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

ACETATO DE 2-METOXI-1-METILETILO
Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre (INCR, 2010).

1-METOXI-2-PROPANOL
La principal vía de entrada es la cutánea, mientras que la respiratoria es menos importante, dada la baja tensión de vapor del producto. Por encima de 100 ppm, se verifica irritación de las mucosas oculares, nasales y orofaríngeas. A 1000 ppm se observan trastornos en el equilibrio e irritación severa de los ojos. Los exámenes clínicos y biológicos practicados en voluntarios expuestos no revelaron anomalías. El acetato produce mayor irritación cutánea y ocular por contacto directo. No se reportan efectos crónicos en el hombre.

ACETATO DE N-BUTILO
En el hombre, los vapores de la sustancia provocan irritación de los ojos y de la nariz. En caso de exposición reiterada, se observa irritación cutánea, dermatosis (con sequedad y agrietamiento de la piel) y queratitis.

Efectos interactivos

ACETATO DE N-BUTILO
Se reporta un caso de intoxicación aguda en un obrero de 33 años durante una operación de limpieza de un tanque con un preparado que contenía xilenos, acetato de butilo y acetato de etilenglicol. El sujeto presentaba irritación conjuntival y del tracto respiratorio superior, somnolencia y trastornos de la coordinación motriz, que desaparecieron en 5 horas. Los síntomas se atribuyen a envenenamiento de xilenos mixtos y acetato de butilo, con un posible efecto sinérgico responsable de los efectos neurológicos. Casos de queratopatía vacuolar se reportan en trabajadores expuestos a una mezcla de vapores de acetato de butilo e isobutanol, pero con incertidumbre sobre la responsabilidad de un solvente particular (INRC, 2011).

TOXICIDAD AGUDA

| | |
|---|---|
| ETA (Inhalación) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Oral) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Cutánea) de la mezcla: | No clasificado (ningún componente relevante) |

REACCIÓN MASIVA DEL SEBACATO DE BIS (1,2,2,6,6-PENTAMETIL-4-PIPERIDILO) Y 1,2,2,6,6-PENTAMETIL DE METILO - 4-

## SECCIÓN 11. Información toxicológica ... / >>

SEBACATO DE PIPERIDILO
LD50 (Cutánea): > 3000 mg/kg Rat
LD50 (Oral): > 3000 mg/kg Rat

DIPROPILENGLICOL
LD50 (Cutánea): > 5010 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalación vapores): > 2,34 mg/l/4h Rat

1,4 DIAZABICICLO OCTANO
LD50 (Cutánea): > 2000 mg/kg Rabbit
LD50 (Oral): 1420 mg/kg Rat

CARBALDEHÍDO 4-MORFOLINA
LD50 (Cutánea): > 18400 mg/kg Rat
LD50 (Oral): 7314 mg/kg Rat
LC50 (Inhalación vapores): > 5,319 mg/l/4h Rat

CLORURO DE LITIO
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): 526 mg/kg Rat
LC50 (Inhalación vapores): > 5,57 mg/l/4h Rat

TRIMETILOLPROPANO
LD50 (Oral): > 14700 mg/kg Rat
LC50 (Inhalación nieblas/polvos): > 0,85 mg/l/4h

CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 5000 mg/kg Rat Female

METACRILATO DE 2-HIDROXIETILO
LD50 (Cutánea): 5000 mg/kg Rabbit
LD50 (Oral): 2000 mg/kg Rat

METACRILATO DE METILO
LD50 (Cutánea): 5000 mg/kg rabbit
LD50 (Oral): 7900 mg/kg rat
LC50 (Inhalación vapores): 29,8 mg/l/4h rat

ACETATO DE 2-METOXI-1-METILETILO
LD50 (Cutánea): 2000 mg/kg Rat
LD50 (Oral): > 5155 mg/kg Rat

BUTAN-1-OL
LD50 (Cutánea): 3430 mg/kg Rabbit
LD50 (Oral): 2292 mg/kg Rat
LC50 (Inhalación vapores): > 17,76 ppm/4h Rat

1-METOXI-2-PROPANOL
LD50 (Cutánea): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalación vapores): > 6000 ppm/6h Mouse

ACETATO DE ETILO
LD50 (Cutánea): > 20000 mg/kg rabbit
LD50 (Oral): 5620 mg/kg rat
LC50 (Inhalación nieblas/polvos): 11,72 mg/l/4h rat

ACETATO DE N-BUTILO
LD50 (Cutánea): > 14000 mg/kg bw/d Rabbit
LD50 (Oral): 10736 mg/kg Rat
LC50 (Inhalación vapores): > 21,1 mg/l/4h Rat

CORROSIÓN O IRRITACIÓN CUTÁNEAS

La exposición repetida puede provocar sequedad o formación de grietas en la piel.

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

## SECCIÓN 11. Información toxicológica ... / >>

No responde a los criterios de clasificación para esta clase de peligro

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

Sensibilizante para la piel

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

Puede provocar somnolencia o vértigo

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

No responde a los criterios de clasificación para esta clase de peligro

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

**11.2. Información sobre otros peligros**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

Utilizar según las buenas prácticas de trabajo, evitando la dispersión del producto en el ambiente. Advertir a las autoridades competentes si el producto ha entrado en contacto con cursos de agua o si ha contaminado el suelo o la vegetación.

**12.1. Toxicidad**

| | |
|---|---|
| DIPROPILENGLICOL | |
| EC50 - Algas / Plantas Acuáticas | > 100 mg/l/72h Desmodesmus subspicatus |
| 1,4 DIAZABICICLO OCTANO | |
| EC50 - Algas / Plantas Acuáticas | 110 mg/l/72h |
| NOEC crónica algas / plantas acuáticas | 56 mg/l |
| CARBALDEHÍDO 4-MORFOLINA | |
| LC50 - Peces | 500 mg/l/96h |
| EC50 - Crustáceos | 500 mg/l/48h |
| EC50 - Algas / Plantas Acuáticas | 17440 mg/l/72h |
| EC10 Algas / Plantas Acuáticas | 10760 mg/l/72h |
| NOEC crónica crustáceos | 38 mg/l/21d |
| CLORURO DE LITIO | |
| LC50 - Peces | 158 mg/l/96h oncorhynchus mykiss |
| EC50 - Crustáceos | > 100 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 400 mg/l/72h |
| TRIMETILOLPROPANO | |
| LC50 - Peces | > 1000 mg/l/96h |
| EC50 - Crustáceos | 13000 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 1000 mg/l/72h Pseudokirchneriella subcapitata |
| NOEC crónica crustáceos | > 1000 mg/l Daphnia magna |

## SECCIÓN 12. Información ecológica ... / >>

CERAS DE PARAFINA Y CERAS DE HIDROCARBUROS

| | |
|---|---|
| LC50 - Peces | > 1000 mg/l/96h Onchorynchus mykiss |
| EC50 - Crustáceos | > 10000 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 1000 mg/l/72h Scenedesmus subspicatus |

METACRILATO DE 2-HIDROXIETILO

| | |
|---|---|
| LC50 - Peces | 100 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 380 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 345 mg/l/72h |
| NOEC crónica crustáceos | 24,1 mg/l/21d |
| NOEC crónica algas / plantas acuáticas | 160 mg/l/72h |

METACRILATO DE METILO

| | |
|---|---|
| LC50 - Peces | > 79 mg/l/96h oncorhynchus mykiss |
| EC50 - Crustáceos | 69 mg/l/48h daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 110 mg/l/72h Pseudokirchneriella subcapitata |
| NOEC crónica crustáceos | 37 mg/l Daphnia magna |
| NOEC crónica algas / plantas acuáticas | 49 mg/l Pseudokirchneriella subcapitata |

ACETATO DE 2-METOXI-1-METILETILO

| | |
|---|---|
| LC50 - Peces | > 100 mg/l/96h Oncorhynchus mykiss |
| EC50 - Crustáceos | > 500 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 1000 mg/l/72h selenastrum capricornutum |
| NOEC crónica peces | 47,5 mg/l/14d Oryzias latipes |
| NOEC crónica crustáceos | 100 mg/l/21d Daphnia |
| NOEC crónica algas / plantas acuáticas | 1000 mg/l/72h |

BUTAN-1-OL

| | |
|---|---|
| LC50 - Peces | 1376 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 1328 mg/l/48h Daphnia magna |

1-METOXI-2-PROPANOL

| | |
|---|---|
| LC50 - Peces | < 20800 mg/l/96h pimephales promelas |
| EC50 - Crustáceos | > 21100 mg/l/48h Daphnia |
| NOEC crónica peces | < 4640 mg/l/96h |
| NOEC crónica algas / plantas acuáticas | > 1000 mg/l/7d selenastrum capricornutum |

ACETATO DE ETILO

| | |
|---|---|
| LC50 - Peces | 230 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 165 mg/l/48h Daphnia cucullata |
| EC10 Algas / Plantas Acuáticas | 2,3 mg/l/48h |
| NOEC crónica peces | 9,65 mg/l/32d pimephales promelas |
| NOEC crónica crustáceos | 2,4 mg/l/21d Daphnia magna |
| NOEC crónica algas / plantas acuáticas | 100 mg/l/72h Scenedesmus subspicatus |

ACETATO DE N-BUTILO

| | |
|---|---|
| LC50 - Peces | 18 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 44 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | 675 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica crustáceos | 23 mg/l/21d Daphnia magna |

### 12.2. Persistencia y degradabilidad

1,4 DIAZABICICLO OCTANO

| | |
|---|---|
| Solubilidad en agua | 610000 mg/l @ 25°C |

CARBALDEHÍDO 4-MORFOLINA

| | |
|---|---|
| Solubilidad en agua | 1000 g/l @ 20°C |

CLORURO DE LITIO

| | |
|---|---|
| Solubilidad en agua | 569 g/l @ 20°C |

TRIMETILOLPROPANO

| | |
|---|---|
| Solubilidad en agua | 100 g/l @ 25 °C |

Inherentemente degradable

## SECCIÓN 12. Información ecológica ... / >>

METACRILATO DE 2-HIDROXIETILO
Solubilidad en agua 100 g/l @ 25°C

METACRILATO DE METILO
Solubilidad en agua 15300 mg/l
Rápidamente degradable

ACETATO DE 2-METOXI-1-METILETILO
Solubilidad en agua 198 g/l 20°C
Rápidamente degradable

BUTAN-1-OL
Solubilidad en agua 66 g/l
Rápidamente degradable

1-METOXI-2-PROPANOL
Solubilidad en agua 1000 - 10000 mg/l
Rápidamente degradable

ACETATO DE ETILO
Solubilidad en agua > 10000 mg/l
Rápidamente degradable

ACETATO DE N-BUTILO
Solubilidad en agua 5300 mg/l
Rápidamente degradable

**12.3. Potencial de bioacumulación**

DIPROPILENGLICOL
Coeficiente de distribución: n-octanol/agua -0,46 @ 20°C

1,4 DIAZABICICLO OCTANO
Coeficiente de distribución: n-octanol/agua -0,49 @ 20°C
BCF 13

CARBALDEHÍDO 4-MORFOLINA
Coeficiente de distribución: n-octanol/agua -1,2 @ 23°C
BCF 1,9 l/kg

CLORURO DE LITIO
Coeficiente de distribución: n-octanol/agua -1

TRIMETILOLPROPANO
Coeficiente de distribución: n-octanol/agua -0,47 @ 26 °C

METACRILATO DE 2-HIDROXIETILO
Coeficiente de distribución: n-octanol/agua 0,42 Log Kow @ 25°C

METACRILATO DE METILO
Coeficiente de distribución: n-octanol/agua 1,38

ACETATO DE 2-METOXI-1-METILETILO
Coeficiente de distribución: n-octanol/agua 1,2

BUTAN-1-OL
Coeficiente de distribución: n-octanol/agua 1 25 °C
BCF 3,16

1-METOXI-2-PROPANOL
Coeficiente de distribución: n-octanol/agua < 1

ACETATO DE ETILO
Coeficiente de distribución: n-octanol/agua 0,68
BCF 30

## SECCIÓN 12. Información ecológica ... / >>

ACETATO DE N-BUTILO
Coeficiente de distribución: n-octanol/agua 2,3
BCF 15,3

### 12.4. Movilidad en el suelo

DIPROPILENGLICOL
Coeficiente de distribución: suelo/agua 0,781 @ 20°C
1,4 DIAZABICICLO OCTANO
Coeficiente de distribución: suelo/agua 1,94 @ 20°C
TRIMETILOLPROPANO
Coeficiente de distribución: suelo/agua 0,176 @ 20°C
METACRILATO DE METILO
Coeficiente de distribución: suelo/agua 0,94
BUTAN-1-OL
Coeficiente de distribución: suelo/agua 0,388
ACETATO DE N-BUTILO
Coeficiente de distribución: suelo/agua < 3

### 12.5. Resultados de la valoración PBT y mPmB

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

### 12.6. Propiedades de alteración endocrina

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

### 12.7. Otros efectos adversos

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

### 13.1. Métodos para el tratamiento de residuos

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
El transporte de residuos puede estar sujeto al ADR.
La gestión de los residuos derivados de la utilización o dispersión de este producto debe organizarse de acuerdo con las normas de seguridad laboral. Véase la sección 8 para conocer la posible necesidad de EPI.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

### 14.1. Número ONU o número ID

ADR / RID, IMDG, IATA: ONU 1263

### 14.2. Designación oficial de transporte de las Naciones Unidas

ADR / RID: PINTURA
IMDG: PAINT
IATA: PAINT

## SECCIÓN 14. Información relativa al transporte ... / >>

### 14.3. Clase(s) de peligro para el transporte

| | | |
|---|---|---|
| ADR / RID: | Clase: 3 | Etiqueta: 3 |
| IMDG: | Clase: 3 | Etiqueta: 3 |
| IATA: | Clase: 3 | Etiqueta: 3 |



### 14.4. Grupo de embalaje

ADR / RID, IMDG, IATA: III

### 14.5. Peligros para el medio ambiente

ADR / RID: NO
IMDG: no contaminante marino
IATA: NO

### 14.6. Precauciones particulares para los usuarios

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 30 | Cantidades limitadas: 5 lt | Código de restricción en túnel: (D/E) |
| | Disposiciónes especiales: 163, 367, 650 | | |
| IMDG: | EMS: F-E, S-E | Cantidades limitadas: 5 lt | |
| IATA: | Cargo: | Cantidad máxima: 220 L | Instrucciones embalaje: 366 |
| | Pasajeros: | Cantidad máxima: 60 L | Instrucciones embalaje: 355 |
| | Disposiciónes especiales: | A3, A72, A192 | |

### 14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

### 15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla

Categoría Seveso - Directivo 2012/18/UE: P5c

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos
no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

## SECCIÓN 15. Información reglamentaria ... / >>

Controles sanitarios
Los trabajadores expuestos a este agente químico no deben ser sometidos a la vigilancia sanitaria, siempre y cuando los resultados de la evaluación de los riesgos demuestren que existe sólo un moderado riesgo para la seguridad y la salud de los trabajadores y que las medidas previstas por la directiva 98/24/CE estén siendo respetadas y sean suficientes para reducir el riesgo.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 2: Peligroso para las aguas

**15.2. Evaluación de la seguridad química**

No se ha realizado una evaluación de seguridad química para la mezcla/las sustancias indicadas en la sección 3.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 2** | Líquidos inflamables, categoría 2 |
| **Flam. Liq. 3** | Líquidos inflamables, categoría 3 |
| **Flam. Sol. 2** | Sólidos inflamables, categoría 2 |
| **Repr. 2** | Toxicidad para la reproducción, categoría 2 |
| **Acute Tox. 4** | Toxicidad aguda, categoría 4 |
| **Eye Dam. 1** | Lesiones oculares graves, categoría 1 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **Skin Irrit. 2** | Irritación cutáneas, categoría 2 |
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **Skin Sens. 1** | Sensibilización cutánea, categoría 1 |
| **Skin Sens. 1A** | Sensibilización cutánea, categoría 1A |
| **Aquatic Acute 1** | Peligroso para el medio ambiente acuático, toxicidad aguda, categoría 1 |
| **Aquatic Chronic 1** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 1 |
| **H225** | Líquido y vapores muy inflamables. |
| **H226** | Líquidos y vapores inflamables. |
| **H228** | Sólido inflamable. |
| **H361f** | Se sospecha que perjudica a la fertilidad. |
| **H361fd** | Se sospecha que perjudica a la fertilidad. Se sospecha que daña al feto. |
| **H302** | Nocivo en caso de ingestión. |
| **H318** | Provoca lesiones oculares graves. |
| **H319** | Provoca irritación ocular grave. |
| **H315** | Provoca irritación cutánea. |
| **H335** | Puede irritar las vías respiratorias. |
| **H317** | Puede provocar una reacción alérgica en la piel. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **H400** | Muy tóxico para los organismos acuáticos. |
| **H410** | Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico
- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos

## SECCIÓN 16. Otra información ... / >>

- REACH: Reglamento (CE) 1907/2006
- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral
- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

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1. Reglamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)
6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)
8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
10. Reglamento (UE) 2015/1221 del Parlamento Europeo (VII Atp. CLP)
11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
13. Reglamento (UE) 2017/776 (X Atp. CLP)
14. Reglamento (UE) 2018/669 (XI Atp. CLP)
15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
19. Reglamento delegado (UE) 2020/1182 (XV Atp. CLP)
20. Reglamento delegado (UE) 2021/643 (XVI Atp. CLP)
21. Reglamento delegado (UE) 2021/849 (XVII Atp. CLP)
22. Reglamento delegado (UE) 2022/692 (XVIII Atp. CLP)
23. Reglamento delegado (UE) 2023/707
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26. Reglamento delegado (UE) 2024/197 (XXI Atp. CLP)
27. Reglamento delegado (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.
Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

Modificaciones con respecto a la revisión precedente:

**SECCIÓN 16. Otra información** ... / >>

Han sido realizadas variaciones en las siguientes secciones:
02 / 03 / 08 / 09 / 11 / 12 / 13 / 14.

# Ficha de Datos de Seguridad

En conformidad con Anexo II del REACH - Reglamento (UE) 2020/878

## SECCIÓN 1. Identificación de la sustancia o la mezcla y de la sociedad o la empresa

### 1.1. Identificador del producto

Código: **XXADB690**
Denominación **ADDITIVO PER STABILIZZAZIONE**

UFI : **EUX2-W078-K00H-UJ3F**

### 1.2. Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

| Usos Identificados | Industriales | Profesionales | Consumidores |
|---|---|---|---|
| **Aditivo para productos de pintura.** | ✓ | - | - |
| **Aditivo de pintura para la producción de piezas de interior de automóviles** | ✓ | - | - |

### 1.3. Datos del proveedor de la ficha de datos de seguridad

Razón social: **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Dirección: **Via Bedeschi, 25**
Localidad y Estado: **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

dirección electrónica de la persona competente,
responsable de la ficha de datos de seguridad **gianluca.cerina@icro.it**

Proveedor: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italia**

### 1.4. Teléfono de emergencia

Para informaciones urgentes dirigirse a **Servicio de Información Toxicológica - + 34 91 562 04 20**

## SECCIÓN 2. Identificación de los peligros

### 2.1. Clasificación de la sustancia o de la mezcla

El producto está clasificado como peligroso según las disposiciones del Reglamento (CE) 1272/2008 (CLP) (y sucesivas modificaciones y adaptaciones). Por lo tanto, el producto requiere una ficha de datos de seguridad conforme a las disposiciones del Reglamento (UE) 2020/878.
Eventual información adicional sobre los riesgos para la salud y/o el ambiente están disponibles en las secciones 11 y 12 de la presente ficha.

Clasificación e indicación de peligro:

| | | |
|---|---|---|
| Líquidos inflamables, categoría 2 | H225 | Líquido y vapores muy inflamables. |
| Irritación ocular, categoría 2 | H319 | Provoca irritación ocular grave. |
| Toxicidad específica en determinados órganos - exposiciones única, categoría 3 | H336 | Puede provocar somnolencia o vértigo. |

### 2.2. Elementos de la etiqueta

Etiquetas de peligro en conformidad con el Reglamento (CE) 1272/2008 (CLP) y sucesivas modificaciones y adaptaciones.

Pictogramas de peligro:



## SECCIÓN 2. Identificación de los peligros ... / >>

Palabras de advertencia: Peligro

Indicaciones de peligro:

| | |
|---|---|
| **H225** | Líquido y vapores muy inflamables. |
| **H319** | Provoca irritación ocular grave. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

Consejos de prudencia:

| | |
|---|---|
| **P210** | Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar. |
| **P280** | Llevar guantes / prendas / gafas / máscara de protección. |
| **P370+P378** | En caso de incendio: utilice polvo para extinguir. |
| **P261** | Evitar respirar el polvo / el humo / el gas / la niebla / los vapores / el aerosol. |

**Contiene:** ACETATO DE ETILO

### 2.3. Otros peligros

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

El producto no contiene sustancias con propiedades de alteración del sistema endocrino en concentración ≥ 0,1%.

## SECCIÓN 3. Composición/información sobre los componentes

### 3.2. Mezclas

Contiene:

| Identificación | x = Conc. % | Clasificación (CE) 1272/2008 (CLP) |
|---|---|---|
| **ACETATO DE ETILO** | | |
| *INDEX 607-022-00-5* | 80 ≤ x < 100 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *CE 205-500-4* | | |
| *CAS 141-78-6* | | |
| *Reg. REACH 01-2119475103-XXXX* | | |
| **MEZCLA DE ISÓMEROS DE: 3-(3,5-DI-TRANS-BUTIL-4-HIDROXIFENIL)PROPIONATO DE C7-9-ALQUILO** | | |
| *INDEX 607-530-00-7* | 9 ≤ x < 14 | **Aquatic Chronic 4 H413** |
| *CE 406-040-9* | | |
| *CAS 125643-61-0* | | |
| *Reg. REACH 01-0000015551-76-XXXX* | | |

El texto completo de las indicaciones de peligro (H) se encuentra en la sección 16 de la ficha.

## SECCIÓN 4. Primeros auxilios

### 4.1. Descripción de los primeros auxilios

En caso de duda o en presencia de síntomas, póngase en contacto con un médico y muéstrele este documento.
En caso de síntomas más graves, solicite asistencia médica inmediata.
OJOS: Quite al accidentado las eventuales lentes de contacto, si la situación permite realizar esta operación fácilmente. Lave inmediatamente con abundante agua durante al menos 15 minutos, abriendo bien los párpados. Consulte inmediatamente a un médico.
PIEL: Quitar las prendas contaminadas. Lave inmediatamente con abundante agua corriente (y, si es posible, con jabón). Consultar a un médico. Evite ulteriores contactos con las prendas contaminadas.
INGESTIÓN: No provoque el vómito sin expresa autorización del médico. Si el sujeto está inconsciente, no administre nada por vía oral. Consulte inmediatamente a un médico.
INHALACIÓN: Lleve al sujeto al aire libre, lejos del lugar del accidente. En caso de síntomas respiratorios (tos, dispnea, respiración dificultosa, asma), mantenga al accidentado en una posición que facilite la respiración. Si es necesario, administre oxígeno. Si la respiración cesa, practique respiración artificial. Consulte inmediatamente a un médico.

Protección de los socorristas

Se recomienda que el socorrista que ayuda a un sujeto que ha estado expuesto a una sustancia o una mezcla química utilice equipos de protección individual. La naturaleza de estas protecciones depende de la peligrosidad de la sustancia o de la mezcla, de la forma de

## SECCIÓN 4. Primeros auxilios ... / >>

exposición y del grado de contaminación. En ausencia de otras indicaciones más específicas, se recomienda utilizar guantes desechables en caso de posible contacto con líquidos biológicos. Para conocer los tipos de EPI más adecuados para la sustancia o de la mezcla, se remite a la sección 8.

**4.2. Principales síntomas y efectos, agudos y retardados**

No hay información específica sobre síntomas y efectos provocados por el producto.

EFECTOS RETARDADOS: Sobre la base de los datos disponibles, no se conocen casos de efectos retardados después de la exposición a este producto.

**4.3. Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

Si no se siente bien, comuníquese con un CENTRO DE TOXICOLOGÍA o con un médico.

Elementos que deben estar a disposición en el lugar de trabajo para el tratamiento específico e inmediato

Agua corriente para lavar la piel y los ojos.

## SECCIÓN 5. Medidas de lucha contra incendios

**5.1. Medios de extinción**

MEDIOS DE EXTINCIÓN IDÓNEOS
Los medios de extinción son los siguientes: anhídrido carbónico, espuma y polvo químico. Para las pérdidas y derrames de producto que no se hayan incendiado, el agua nebulizada puede ser utilizada para dispersar los vapores inflamables y proteger a las personas encargadas de detener la pérdida.
MEDIOS DE EXTINCIÓN NO IDÓNEOS
No use chorros de agua. El agua no es eficaz para extinguir el incendio; sin embargo, puede usarse para enfriar los recipientes cerrados expuestos a las llamas, previniendo estallidos y explosiones.

**5.2. Peligros específicos derivados de la sustancia o la mezcla**

PELIGROS DEBIDOS A LA EXPOSICIÓN EN CASO DE INCENDIO
Se puede crear sobrepresión en los recipientes expuestos al fuego, con peligro de explosión. Evite respirar los productos de la combustión.

**5.3. Recomendaciones para el personal de lucha contra incendios**

INFORMACIÓN GENERAL
Enfríe los recipientes con chorros de agua para evitar la descomposición del producto y la formación de sustancias potencialmente peligrosas para la salud. Use siempre el equipo de protección antiincendio completo. Recoja las aguas usadas para la extinción, que no deben verterse en las alcantarillas. Elimine el agua contaminada usada para la extinción y los residuos del incendio siguiendo las normas vigentes.
EQUIPO
Elementos normales para la lucha contra el fuego, como un respirador autónomo de aire comprimido de circuito abierto (EN 137), traje ignífugo (EN469), guantes ignífugos (EN 659) y botas de bomberos (HO A29 o A30).

## SECCIÓN 6. Medidas en caso de vertido accidental

**6.1. Precauciones personales, equipo de protección y procedimientos de emergencia**

Bloquee la pérdida, si no hay peligro.
Utilizar adecuados dispositivos de protección (incluidos los equipos de protección individual indicados en la sección 8 de la ficha de datos de seguridad), para prevenir la contaminación de la piel, de los ojos y de las prendas personales. Estas indicaciones son válidas tanto para los encargados de las elaboraciones como para las intervenciones de emergencia.

Aleje a las personas desprovistas de equipo. Utilice un dispositivo antideflagrante. Elimine toda fuente de ignición (cigarrillos, llamas, chispas, etc.) o de calor en el área en que se ha verificado la pérdida.

**6.2. Precauciones relativas al medio ambiente**

Impida que el producto alcance el alcantarillado, las aguas superficiales y las capas freáticas.

**6.3. Métodos y material de contención y de limpieza**

Aspire el producto derramado en un recipiente idóneo. Evalúe la compatibilidad del producto con el recipiente a utilizar, consultando la sección 10. Absorba el producto restante con material absorbente inerte.
Proceda a una suficiente ventilación del lugar afectado por la pérdida. La eliminación del material contaminado se debe realizar según las disposiciones del punto 13.

**SECCIÓN 6. Medidas en caso de vertido accidental** ... / >>

**6.4. Referencia a otras secciones**

Eventual información sobre la protección individual y la eliminación está disponible en las secciones 8 y 13.

## SECCIÓN 7. Manipulación y almacenamiento

**7.1. Precauciones para una manipulación segura**

Mantenga el producto lejos de fuentes de calor, chispas y llamas libres; no fume ni use cerillas o mecheros. Sin una adecuada ventilación, los vapores podrían acumularse en el suelo y, en presencia de una fuente de ignición, incendiarse incluso a distancia, con el peligro de un retorno de llama. Evite la acumulación de cargas electrostáticas. En caso de embalajes de grandes dimensiones, conecte una toma de tierra y utilice calzado antiestático durante las operaciones de trasiego. La agitación enérgica y el paso con fuerza del líquido en las tuberías y aparatos pueden causar la formación y acumulación de cargas electrostáticas. Para evitar el peligro de incendio y explosión, evite el uso de aire comprimido durante su movimiento. Abra los recipientes con cuidado, ya que pueden estar bajo presión. No coma, beba ni fume durante el uso. Evite la dispersión del producto en el ambiente.

**7.2. Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

Conserve el producto solamente en el envase original. Conserve los recipientes cerrados, en un lugar bien ventilado, protegidos de la acción directa de los rayos del sol. Conserve el producto en un lugar fresco y bien ventilado, lejos de fuentes de calor, llamas libres, chispas y otras fuentes de ignición. Conserve los recipientes alejados de eventuales materiales incompatibles, verificando la sección 10.

Clase de almacenamiento TRGS 510 (Alemania): 3

**7.3. Usos específicos finales**

Información no disponible.

## SECCIÓN 8. Controles de exposición/protección individual

**8.1. Parámetros de control**

Referencias normativas:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

| | | |
|---|---|---|
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directiva (UE) 2022/431; Directiva (UE) 2019/1831; Directiva (UE) 2019/130; Directiva (UE) 2019/983; Directiva (UE) 2017/2398; Directiva (UE) 2017/164; Directiva 2009/161/UE; Directiva 2006/15/CE; Directiva 2004/37/CE; Directiva 2000/39/CE; Directiva 98/24/CE; Directiva 91/322/CEE. |
| | TLV-ACGIH | ACGIH 2025 |

**MEZCLA DE ISÓMEROS DE: 3-(3,5-DI-TRANS-BUTIL-4-HIDROXIFENIL)PROPIONATO DE C7-9-ALQUILO**

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,0043 | mg/l |
| Valor de referencia en agua marina | 0,00000 3 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 0,37 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,037 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 0,018 | mg/l |
| Valor de referencia para los microorganismos STP | 10 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 0,033 | mg/kg |
| Valor de referencia para el medio terrestre | 0,05 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | 50 mg/kg bw/d | | 0,160 mg/kg/bw | | | | |
| Inhalación | NPI | 875 mg/m3 | NPI | 0,740 mg/m3 | NPI | 1750 mg/m3 | NPI | 2,33 mg/m3 |
| Dérmica | 8,33 mg/cm2 | 50 mg/kg bw/d | NPI | 0,300 mg/kg/bw | 1 mg/cm2 | 20 mg/kg bw/d | 0,006 mg/cm2 | 0,220 mg/kg bw/d |

## SECCIÓN 8. Controles de exposición/protección individual ... / >>

**ACETATO DE ETILO**

**Valor límite de umbral**

| Tipo | Estado | TWA/8h | | STEL/15min | | Notas / Observaciones |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | | 1468 | | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| TLV-ACGIH | | 1441 | 400 | | | |

**Concentración prevista sin efectos sobre el ambiente - PNEC**

| | | |
|---|---|---|
| Valor de referencia en agua dulce | 0,24 | mg/l |
| Valor de referencia en agua marina | 0,024 | mg/l |
| Valor de referencia para sedimentos en agua dulce | 1,15 | mg/kg |
| Valor de referencia para sedimentos en agua marina | 0,115 | mg/kg |
| Valor de referencia para el agua, liberación intermitente | 1,65 | mg/l |
| Valor de referencia para los microorganismos STP | 650 | mg/l |
| Valor de referencia para la cadena alimentaria (envenenamiento secundario) | 200 | mg/kg |
| Valor de referencia para el medio terrestre | 0,148 | mg/kg |
| Valor de referencia para la atmósfera | NPI | |

**Salud - Nivel sin efecto derivado - DNEL/DMEL**

| | Efectos sobre los consumidores | | | | Efectos sobre los trabajadores | | | |
|---|---|---|---|---|---|---|---|---|
| Vía de exposición | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos | Locales agudos | Sistém agudos | Locales crónicos | Sistém crónicos |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalación | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Dérmica | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

Leyenda:
(C) = CEILING ; INHAL = Fracción inhalable ; RESPIR = Fracción respirable ; TORAC = Fracción torácica.
VND = peligro identificado pero ningún DNEL/PNEC disponible ; NEA = ninguna exposición esperada ; NPI = ningún peligro identificado ; LOW = bajo peligro ; MED = medio peligro ; HIGH = alto peligro.

### 8.2. Controles de la exposición

Considerando que el uso de medidas técnicas adecuadas debería tener prioridad respecto a los equipos de protección personales, asegurar una buena ventilación en el lugar de trabajo a través de una eficaz aspiración local.
Durante la elección de los equipos protectores personales pedir consejo a los proveedores de sustancias químicas.
Los dispositivos de protección individual deben ser conformes a las normativas vigentes y deberán llevar el marcado CE.
Prever un sistema para el lavado ocular y una ducha de emergencia.
PROTECCIÓN DE LAS MANOS
Proteger las manos con guantes de trabajo de categoría III.
Al elegir el material de los guantes de trabajo, hay que tener en consideración cuanto sigue (véase la norma EN 374): compatibilidad, degradación, tiempo de permeabilidad.
En el caso de preparados para la resistencia de los guantes de trabajo, ésta debe ser verificada antes del uso dado que no es previsible.
Los guantes tienen un tiempo de uso que depende de la duración de la exposición.
PROTECCIÓN DE LA PIEL

**SECCIÓN 8. Controles de exposición/protección individual** ... / >>

Usar indumentos de trabajo con mangas largas y calzado de protección para uso profesional de categoría I (ref. Reglamento 2016/425 y norma EN ISO 20344). Lavarse con agua y jabón después de haber extraído los indumentos de protección.
Evaluar la posibilidad de proporcionar indumentaria antiestática en caso de que en el ambiente de trabajo exista riesgo de explosión.
PROTECCIÓN DE LOS OJOS
Usar gafas de protección herméticas (véase la norma EN ISO 16321).
PROTECCIÓN RESPIRATORIA
La utilización de medios de protección de las vías respiratorias es necesaria en ausencia de medidas técnicas para limitar la exposición del trabajador. Se aconseja llevar una mascarilla con filtro de tipo A.Elegid la clase de la misma (1, 2 o 3) según la concentración límite de utilización. (véase la norma EN 14387).
En caso de que la sustancia considerada sea inodora o su umbral olfativo sea superior al correspondiente TLV-TWA y en caso de emergencia, usar un autorrespirador de aire comprimido de circuito abierto (ref. norma EN 137) o bien un respirador con toma de aire exterior (ref. norma EN 138). Para elegir una protección idónea para las vías respiratorias, hacer referencia a la norma EN 529.
CONTROLES DE LA EXPOSICIÓN AMBIENTAL
Las emisiones de los procesos productivos, incluidas las de los dispositivos de ventilación, deberían ser controladas para garantizar el respeto de la normativa de protección ambiental.

## SECCIÓN 9. Propiedades físicas y químicas

### 9.1. Información sobre propiedades físicas y químicas básicas

| Propiedades | Valor | | Información |
|---|---|---|---|
| Estado físico | líquido | | |
| Color | incoloro | | |
| Olor | típico de disolvente | | |
| Umbral olfativo | no aplicable | | |
| Punto de fusión / punto de congelación | no aplicable | | |
| Punto inicial de ebullición | 77 | °C | |
| Intervalo de ebullición | 77-80 | °C | |
| Inflamabilidad | no aplicable | | |
| Límites inferior de explosividad | 2 | % (v/v) | Temperatura: 20 °C |
| Límites superior de explosividad | 11,5 | % (v/v) | Temperatura: 20 °C |
| Punto de inflamación | 4 | °C | |
| Temperatura de auto-inflamación | 426 | °C | |
| Temperatura de descomposición | no aplicable | | |
| pH | no aplicable | | |
| Viscosidad cinemática | no aplicable | | |
| Solubilidad | soluble en solventes orgánicos | | |
| Coeficiente de reparto n-octanol/agua | no aplicable | | |
| Presión de vapor | no determinado | | |
| Densidad y/o densidad relativa | 0,91 | | |
| Densidad de vapor relativa | 3,04 | | |
| Características de las partículas | no aplicable | | |

### 9.2. Otros datos

9.2.1. Información relativa a las clases de peligro físico

Información no disponible.

9.2.2. Otras características de seguridad

| | | | | |
|---|---|---|---|---|
| Tasa de evaporación | no determinado | | | |
| VOC (Directiva 2010/75/UE) | 90,00 % | - | 819,00 | gr/litro |
| VOC (carbono volátil) | 49,03 % | - | 446,17 | gr/litro |
| Propiedades explosivas | no aplicable | | | |
| Propiedades comburentes | no aplicable | | | |

## SECCIÓN 10. Estabilidad y reactividad

**10.1. Reactividad**

En condiciones de uso normales, no hay particulares peligros de reacción con otras sustancias.

ACETATO DE ETILO
Se descompone lentamente con ácido acético y etanol, por la acción de la luz, el aire y el agua.

**10.2. Estabilidad química**

El producto es estable en las condiciones normales de uso y almacenamiento.

**10.3. Posibilidad de reacciones peligrosas**

Los vapores pueden formar mezclas explosivas con el aire.

ACETATO DE ETILO
Riesgo de explosión por contacto con: metales alcalinos,hidruros,óleum.Puede reaccionar violentamente con: flúor,agentes oxidantes fuertes,ácido clorosulfúrico,ter-butóxido de potasio.Forma mezclas explosivas con: aire.

**10.4. Condiciones que deben evitarse**

Evite el recalentamiento. Evite la acumulación de cargas electrostáticas. Evite cualquier fuente de ignición.

ACETATO DE ETILO
Evitar la exposición a: luz,fuentes de calor,llamas libres.

**10.5. Materiales incompatibles**

ACETATO DE ETILO
Incompatible con: ácidos,bases,oxidantes fuertes,ácido clorosulfúrico.

**10.6. Productos de descomposición peligrosos**

En caso de descomposición térmica o incendio, se pueden liberar gases y vapores potencialmente perjudiciales para la salud.

## SECCIÓN 11. Información toxicológica

En ausencia de datos toxicológicos experimentales sobre el producto, los eventuales peligros para la salud han sido evaluados en base a las propiedades de las sustancias contenidas, según los criterios previstos por la normativa de referencia para su clasificación.
Por lo tanto, se debe considerar la concentración de cada sustancia peligrosa eventualmente citada en la secc. 3, para evaluar los efectos toxicológicos derivados de la exposición al producto.

**11.1. Información sobre las clases de peligro definidas en el Reglamento (CE) n.o 1272/2008**

Metabolismo, cinética, mecanismo de acción y otras informaciones

Información no disponible.

Información sobre posibles vías de exposición

Información no disponible.

Efectos retardados e inmediatos, así como efectos crónicos producidos por una exposición a corto y largo plazo

Información no disponible.

Efectos interactivos

Información no disponible.

TOXICIDAD AGUDA

| | |
|---|---|
| ETA (Inhalación) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Oral) de la mezcla: | No clasificado (ningún componente relevante) |
| ETA (Cutánea) de la mezcla: | No clasificado (ningún componente relevante) |

## SECCIÓN 11. Información toxicológica ... / >>

MEZCLA DE ISÓMEROS DE: 3-(3,5-DI-TRANS-BUTIL-4-HIDROXIFENIL)PROPIONATO DE C7-9-ALQUILO

| | |
|---|---|
| LD50 (Cutánea): | > 2000 mg/kg Rat |
| LD50 (Oral): | > 2000 mg/kg Rat |

ACETATO DE ETILO

| | |
|---|---|
| LD50 (Cutánea): | > 20000 mg/kg rabbit |
| LD50 (Oral): | 5620 mg/kg rat |
| LC50 (Inhalación nieblas/polvos): | 11,72 mg/l/4h rat |

CORROSIÓN O IRRITACIÓN CUTÁNEAS

La exposición repetida puede provocar sequedad o formación de grietas en la piel.

LESIONES OCULARES GRAVES O IRRITACIÓN OCULAR

Provoca irritación ocular grave

SENSIBILIZACIÓN RESPIRATORIA O CUTÁNEA

No responde a los criterios de clasificación para esta clase de peligro

MUTAGENICIDAD EN CÉLULAS GERMINALES

No responde a los criterios de clasificación para esta clase de peligro

CARCINOGENICIDAD

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD PARA LA REPRODUCCIÓN

No responde a los criterios de clasificación para esta clase de peligro

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN ÚNICA

Puede provocar somnolencia o vértigo

TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) - EXPOSICIÓN REPETIDA

No responde a los criterios de clasificación para esta clase de peligro

PELIGRO POR ASPIRACIÓN

No responde a los criterios de clasificación para esta clase de peligro

**11.2. Información sobre otros peligros**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en la salud humana que estén en proceso de evaluación.

## SECCIÓN 12. Información ecológica

Utilizar según las buenas prácticas de trabajo, evitando la dispersión del producto en el ambiente. Advertir a las autoridades competentes si el producto ha entrado en contacto con cursos de agua o si ha contaminado el suelo o la vegetación.

**12.1. Toxicidad**

MEZCLA DE ISÓMEROS DE: 3-(3,5-DI-TRANS-BUTIL-4-HIDROXIFENIL)PROPIONATO DE C7-9-ALQUILO

| | |
|---|---|
| LC50 - Peces | > 74 mg/l/96h Brachydanio rerio |
| EC50 - Crustáceos | > 100 mg/l/48h Daphnia magna |
| EC50 - Algas / Plantas Acuáticas | > 3 mg/l/72h Scenedesmus subspicatus |
| NOEC crónica peces | 0,36 mg/l/33d |
| NOEC crónica crustáceos | 0,01 mg/l/21d |
| NOEC crónica algas / plantas acuáticas | > 0,00018 mg/l |

ACETATO DE ETILO

| | |
|---|---|
| LC50 - Peces | 230 mg/l/96h Pimephales promelas |
| EC50 - Crustáceos | 165 mg/l/48h Daphnia cucullata |
| EC10 Algas / Plantas Acuáticas | 2,3 mg/l/48h |

## SECCIÓN 12. Información ecológica ... / >>

| | |
|---|---|
| NOEC crónica peces | 9,65 mg/l/32d pimephales promelas |
| NOEC crónica crustáceos | 2,4 mg/l/21d Daphnia magna |
| NOEC crónica algas / plantas acuáticas | 100 mg/l/72h Scenedesmus subspicatus |

**12.2. Persistencia y degradabilidad**

ACETATO DE ETILO

| | |
|---|---|
| Solubilidad en agua | > 10000 mg/l |

Rápidamente degradable

**12.3. Potencial de bioacumulación**

ACETATO DE ETILO

| | |
|---|---|
| Coeficiente de distribución: n-octanol/agua | 0,68 |
| BCF | 30 |

**12.4. Movilidad en el suelo**

Información no disponible.

**12.5. Resultados de la valoración PBT y mPmB**

Sobre la base de los datos disponibles, el producto no contiene sustancias PBT o vPvB en porcentaje ≥ al 0,1%.

**12.6. Propiedades de alteración endocrina**

Según los datos disponibles, el producto no contiene sustancias que figuren entre las principales listas europeas de alteradores endocrinos potenciales o sospechosos con efectos en el medio ambiente que estén en proceso de evaluación.

**12.7. Otros efectos adversos**

Información no disponible.

## SECCIÓN 13. Consideraciones relativas a la eliminación

**13.1. Métodos para el tratamiento de residuos**

Reutilizar si es posible. Los deshechos del producto tienen que considerarse especialmente peligrosos. La peligrosidad de los residuos que contiene en parte este producto debe valorarse en función de las disposiciones legislativas vigentes.
La eliminación debe encargarse a una sociedad autorizada para la gestión de basuras, según cuanto dispuesto por la normativa nacional y eventualmente local.
El transporte de residuos puede estar sujeto al ADR.
EMBALAJES CONTAMINADOS
Los embalajes contaminados deben enviarse a la recuperación o eliminación según las normas nacionales sobre la gestión de residuos.

## SECCIÓN 14. Información relativa al transporte

**14.1. Número ONU o número ID**

ADR / RID, IMDG, IATA: ONU 1173

**14.2. Designación oficial de transporte de las Naciones Unidas**

| | |
|---|---|
| ADR / RID: | Ethyl acetate |
| IMDG: | Ethyl acetate |
| IATA: | Ethyl acetate |

## SECCIÓN 14. Información relativa al transporte ... / >>

### 14.3. Clase(s) de peligro para el transporte

| | | |
|---|---|---|
| ADR / RID: | Clase: 3 | Etiqueta: 3 |
| IMDG: | Clase: 3 | Etiqueta: 3 |
| IATA: | Clase: 3 | Etiqueta: 3 |



### 14.4. Grupo de embalaje

ADR / RID, IMDG, IATA: II

### 14.5. Peligros para el medio ambiente

ADR / RID: NO
IMDG: no contaminante marino
IATA: NO

### 14.6. Precauciones particulares para los usuarios

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 33<br>Disposiciónes especiales: - | Cantidades limitadas: 1 L | Código de restricción en túnel: (D/E) |
| IMDG: | EMS: F-E, S-D | Cantidades limitadas: 1 L | |
| IATA: | Cargo:<br>Pasajeros:<br>Disposiciónes especiales: | Cantidad máxima: 60 L<br>Cantidad máxima: 5 L<br>- | Instrucciones embalaje: 364<br>Instrucciones embalaje: 353 |

### 14.7. Transporte marítimo a granel con arreglo a los instrumentos de la OMI

Información no pertinente.

## SECCIÓN 15. Información reglamentaria

### 15.1. Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla

Categoría Seveso - Directivo 2012/18/UE: P5c

Restricciones relativas al producto o a las sustancias contenidas según el anexo XVII Reglamento (CE) 1907/2006
Producto
Punto 3 - 40
Sustancias contenidas
Punto 75

Reglamento (UE) 2019/1148 - sobre la comercialización y la utilización de precursores de explosivos
no aplicable

Sustancias en Candidate List (Art. 59 REACH)
Sobre la base de los datos disponibles, el producto no contiene sustancias SVHC en porcentaje ≥ al 0,1%.

Sustancias sujetas a autorización (Anexo XIV REACH)
Ninguna

Sustancias sujetas a obligación de notificación de exportación Reglamento (UE) 649/2012:
Ninguna

Sustancias sujetas a la Convención de Rotterdam:
Ninguna

Sustancias sujetas a la Convención de Estocolmo:
Ninguna

## SECCIÓN 15. Información reglamentaria ... / >>

Controles sanitarios
Los trabajadores expuestos a este agente químico no deben ser sometidos a la vigilancia sanitaria, siempre y cuando los resultados de la evaluación de los riesgos demuestren que existe sólo un moderado riesgo para la seguridad y la salud de los trabajadores y que las medidas previstas por la directiva 98/24/CE estén siendo respetadas y sean suficientes para reducir el riesgo.

Clasificación de sustancias contaminantes para el agua en Alemania (AwSV, vom 18. April 2017)
WGK 1: Poco peligroso para las aguas.

**15.2. Evaluación de la seguridad química**

No se ha realizado una evaluación de seguridad química para la mezcla/las sustancias indicadas en la sección 3.

## SECCIÓN 16. Otra información

Texto de las indicaciones de peligro (H) citadas en la secciones 2-3 de la ficha:

| | |
|---|---|
| **Flam. Liq. 2** | Líquidos inflamables, categoría 2 |
| **Eye Irrit. 2** | Irritación ocular, categoría 2 |
| **STOT SE 3** | Toxicidad específica en determinados órganos - exposiciones única, categoría 3 |
| **Aquatic Chronic 4** | Peligroso para el medio ambiente acuático, toxicidad crónico, categoría 4 |
| **H225** | Líquido y vapores muy inflamables. |
| **H319** | Provoca irritación ocular grave. |
| **H336** | Puede provocar somnolencia o vértigo. |
| **H413** | Puede ser nocivo para los organismos acuáticos, con efectos nocivos duraderos. |
| **EUH066** | La exposición repetida puede provocar sequedad o formación de grietas en la piel. |

LEYENDA:
- ADR: Acuerdo europeo para el transporte de las mercancías peligrosas por carretera
- ATE/ ETA: Estimación de Toxicidad Aguda
- CAS: Número del Chemical Abstract Service
- CE50: Concentración que tiene efecto sobre el 50 % de la población sometida a prueba
- CE: Número identificativo en ESIS (archivo europeo de las sustancias existentes)
- CLP: Reglamento (CE) 1272/2008
- DNEL: Nivel derivado sin efecto
- EmS: Emergency Schedule
- GHS: Sistema armonizado global para la clasificación y el etiquetado de los productos químicos
- IATA DGR: Reglamento para el transporte de mercancías peligrosas de la Asociación internacional de transporte aéreo
- IC50: Concentración de inmovilización del 50 % de la población sometida a prueba
- IMDG: Código marítimo internacional para el transporte de mercancías peligrosas
- IMO: International Maritime Organization
- INDEX: Número identificativo en el anexo VI del CLP
- LC50: Concentración letal 50 %
- LD50: Dosis letal 50 %
- OEL: Nivel de exposición ocupacional
- PBT: Persistente, bioacumulable y tóxico
- PEC: Concentración ambiental previsible
- PEL: Nivel previsible de exposición
- PMT: Persistente, móvil y tóxico
- PNEC: Concentración previsible sin efectos
- REACH: Reglamento (CE) 1907/2006
- RID: Reglamento para el transporte internacional de mercancías peligrosas por ferrocarril
- TLV: Valor límite de umbral
- TLV VALOR MÁXIMO: Concentración que no se debe superar en ningún momento de la exposición laboral.
- TWA: Límite de exposición media ponderada
- TWA STEL: Límite de exposición a corto plazo
- VOC: Compuesto orgánico volátil
- vPvB: Muy persistente y muy bioacumulable
- vPvM: Muy persistente y muy móvil
- WGK: Wassergefährdungsklassen (Deutschland).

BIBLIOGRAFÍA GENERAL:
1. Reglamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Reglamento (CE) 1272/2008 del Parlamento Europeo (CLP)
3. Reglamento (UE) 2020/878 (Anexo II Reglamento REACH)
4. Reglamento (CE) 790/2009 del Parlamento Europeo (I Atp. CLP)
5. Reglamento (UE) 286/2011 del Parlamento Europeo (II Atp. CLP)
6. Reglamento (UE) 618/2012 del Parlamento Europeo (III Atp. CLP)
7. Reglamento (UE) 487/2013 del Parlamento Europeo (IV Atp. CLP)

**SECCIÓN 16. Otra información** ... / >>

8. Reglamento (UE) 944/2013 del Parlamento Europeo (V Atp. CLP)
9. Reglamento (UE) 605/2014 del Parlamento Europeo (VI Atp. CLP)
10. Reglamento (UE) 2015/1221 del Parlamento Europeo (VII Atp. CLP)
11. Reglamento (UE) 2016/918 del Parlamento Europeo (VIII Atp. CLP)
12. Reglamento (UE) 2016/1179 (IX Atp. CLP)
13. Reglamento (UE) 2017/776 (X Atp. CLP)
14. Reglamento (UE) 2018/669 (XI Atp. CLP)
15. Reglamento (UE) 2019/521 (XII Atp. CLP)
16. Reglamento delegado (UE) 2018/1480 (XIII Atp. CLP)
17. Reglamento (UE) 2019/1148
18. Reglamento delegado (UE) 2020/217 (XIV Atp. CLP)
19. Reglamento delegado (UE) 2020/1182 (XV Atp. CLP)
20. Reglamento delegado (UE) 2021/643 (XVI Atp. CLP)
21. Reglamento delegado (UE) 2021/849 (XVII Atp. CLP)
22. Reglamento delegado (UE) 2022/692 (XVIII Atp. CLP)
23. Reglamento delegado (UE) 2023/707
24. Reglamento delegado (UE) 2023/1434 (XIX Atp. CLP)
25. Reglamento delegado (UE) 2023/1435 (XX Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- Sitio web IFA GESTIS
- Sitio web Agencia ECHA
- Banco de datos de modelos de SDS de sustancias químicas - Ministerio de Salud e Instituto Superior de Sanidad

Nota para el usuario:
La información contenida en esta ficha se basa en los conocimientos disponibles hasta la fecha de la última versión. El usuario debe cerciorarse de la idoneidad y completeza de la información en lo que se refiere al específico uso del producto.
Este documento no debe ser interpretado como garantía de alguna propiedad específica del producto.
Visto que la utilización del producto no puede ser controlada directamente por nosotros, será obligación del usuario respetar, bajo su responsabilidad, las leyes y las disposiciones vigentes en lo que se refiere a higiene y seguridad. No se asumen responsabilidades por usos inadecuados.
Ofrezca una adecuada formación al personal encargado del uso de productos químicos.

MÉTODOS DE CÁLCULO DE LA CLASIFICACIÓN
Peligros químicos y físicos: La clasificación del producto ha sido derivada de los criterios establecidos por el Reglamento CLP, Anexo I, Parte 2. Los métodos de evaluación de las propiedades químico-físicas se indican en la sección 9.
Peligros para la salud: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 3, a menos que se especifique lo contrario en la sección 11.
Peligros para el medio ambiente: La clasificación del producto se basa en los métodos de cálculo previstos en el Anexo I del CLP, Parte 4, a menos que se especifique lo contrario en la sección 12.

Modificaciones con respecto a la revisión precedente:
Han sido realizadas variaciones en las siguientes secciones:
04 / 08 / 14.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

| | |
|---|---|
| Code: | **DILL0COR** |
| Product name | **CORRETTIVO PER ESTERLAC** |
| INDEX number | **607-022-00-5** |
| EC number | **205-500-4** |
| CAS number | **141-78-6** |
| Registration Number | **01-2119475103-XXXX** |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Solvent** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

| | | | |
|---|---|---|---|
| Name | **ICRO COATINGS S.P.A. CON SOCIO UNICO** | | |
| Full address | **Via Bedeschi, 25** | | |
| District and Country | **24040** | **Chignolo D'Isola** | **(BG)** |
| | | **Italia** | |
| | **Tel.** | **+39 035 999711** | |
| | **Fax** | **+39 035 999712** | |
| e-mail address of the competent person responsible for the Safety Data Sheet | **gianluca.cerina@icro.it** | | |
| Supplier: | **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy** | | |

### 1.4. Emergency telephone number

| | |
|---|---|
| For urgent inquiries refer to | **There is no known operational emrgency phone number service in UK** |

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Flammable liquid, category 2 | H225 | Highly flammable liquid and vapour. |
| Eye irritation, category 2 | H319 | Causes serious eye irritation. |
| Specific target organ toxicity - single exposure, category 3 | H336 | May cause drowsiness or dizziness. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

## SECTION 2. Hazards identification ... / >>

Hazard statements:

| | |
|---|---|
| **H225** | Highly flammable liquid and vapour. |
| **H319** | Causes serious eye irritation. |
| **H336** | May cause drowsiness or dizziness. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

Precautionary statements:

| | |
|---|---|
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P280** | Wear protective gloves/ protective clothing / eye protection / face protection. |
| **P370+P378** | In case of fire: use powder to extinguish. |
| **P261** | Avoid breathing dust / fume / gas / mist / vapours / spray. |

ETHYL ACETATE
INDEX 607-022-00-5

Product not intended for uses provided for by Directive 2004/42/EC.

### 2.3. Other hazards

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB).

The substance does not have endocrine disrupting properties.

## SECTION 3. Composition/information on ingredients

### 3.1. Substances

Contains:

| Identification | | **Conc. %** | **Classification (EC) 1272/2008 (CLP)** |
|---|---|---|---|
| **ETHYL ACETATE** | | | |
| *INDEX* | *607-022-00-5* | 100 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *EC* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *REACH Reg.* | *01-2119475103-XXXX* | | |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

### 4.2. Most important symptoms and effects, both acute and delayed

## SECTION 4. First aid measures ... / >>

Information not available

### 4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, contact a POISON CENTER or doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

### 5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may

## SECTION 7. Handling and storage ... / >>

accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany): 3

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory references:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe |
| DNK | Danmark | BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2024 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid 2024 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" Oficiālās publikācijas Nr.: 2024/65.2 |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55 |
| NLD | Nederland | Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431 |
| PRT | Portugal | Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för |

## SECTION 8. Exposure controls/personal protection ... / >>

| | | |
|---|---|---|
| | | luftvägsexponering i arbetsmiljön |
| SVK | Slovensko | 121_2024 Z. z. Nariadenie vlády o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym, mutagénnym alebo reprodukčne toxickým faktorom pri práci |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024 |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | ACGIH | ACGIH 2025 |

**ETHYL ACETATE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | 200 | 1468 | 400 | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| ПДК | RUS | 50 | | 200 | | п |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| ACGIH | | 1441 | 400 | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,24 | mg/l |
| Normal value in marine water | 0,024 | mg/l |
| Normal value for fresh water sediment | 1,15 | mg/kg |
| Normal value for marine water sediment | 0,115 | mg/kg |
| Normal value for water, intermittent release | 1,65 | mg/l |
| Normal value of STP microorganisms | 650 | mg/l |
| Normal value for the food chain (secondary poisoning) | 200 | mg/kg |
| Normal value for the terrestrial compartment | 0,148 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalation | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Skin | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

## SECTION 8. Exposure controls/personal protection ... / >>

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | colourless | | |
| Odour | such as: ester | | |
| Melting point / freezing point | -84 | °C | |
| Initial boiling point | 77 | °C | |
| Flammability | not available | | |
| Lower explosive limit | 2,2 | % (v/v) | Temperature: 20 °C |
| Upper explosive limit | 11,5 | % (v/v) | Temperature: 20 °C |
| Flash point | -4 | °C | |
| Auto-ignition temperature | 427 | °C | |
| Decomposition temperature | not applicable | | |
| pH | not applicable | | |
| Kinematic viscosity | not applicable | | |
| Solubility | partially soluble in water | | |
| Partition coefficient: n-octanol/water | 0,68 | | |
| Vapour pressure | 75 | hPa | |
| Density and/or relative density | 0,9 | g/cm3 | Temperature: 20 °C |
| Relative vapour density | 3,04 | | Remark:Aria = 1 |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

**SECTION 9. Physical and chemical properties** ... / >>

| | | | | |
|---|---|---|---|---|
| Molecular weight g/mol | 88,11 | | | |
| VOC (Directive 2010/75/EU) | 100,00 % | - | 900,00 | g/litre |
| VOC (volatile carbon) | 54,48 % | - | 490,30 | g/litre |

## SECTION 10. Stability and reactivity

**10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

Avoid exposure to: light,sources of heat,naked flames.

**10.5. Incompatible materials**

Incompatible with: acids,bases,strong oxidants,chlorosulphuric acid.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

## SECTION 11. Toxicological information

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

| | |
|---|---|
| LD50 (Dermal): | > 20000 mg/kg rabbit |
| LD50 (Oral): | 5620 mg/kg rat |
| LC50 (Inhalation mists/powders): | 11,72 mg/l/4h rat |

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

## SECTION 11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

### 11.2. Information on other hazards

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

### 12.1. Toxicity

| | |
|---|---|
| LC50 - for Fish | 230 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 165 mg/l/48h Daphnia cucullata |
| EC10 for Algae / Aquatic Plants | 2,3 mg/l/48h |
| Chronic NOEC for Fish | 9,65 mg/l/32d pimephales promelas |
| Chronic NOEC for Crustacea | 2,4 mg/l/21d Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants | 100 mg/l/72h Scenedesmus subspicatus |

### 12.2. Persistence and degradability

| | |
|---|---|
| Solubility in water | > 10000 mg/l |
| Rapidly degradable | |

### 12.3. Bioaccumulative potential

| | |
|---|---|
| Partition coefficient: n-octanol/water | 0,68 |
| BCF | 30 |

### 12.4. Mobility in soil

Information not available

### 12.5. Results of PBT and vPvB assessment

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB).

### 12.6. Endocrine disrupting properties

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

## SECTION 12. Ecological information ... / >>

### 12.7. Other adverse effects

Information not available

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

### 14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1173

### 14.2. UN proper shipping name

| | |
|---|---|
| ADR / RID: | ETHYL ACETATE |
| IMDG: | ETHYL ACETATE |
| IATA: | ETHYL ACETATE |

### 14.3. Transport hazard class(es)

| | | |
|---|---|---|
| ADR / RID: | Class: 3 | Label: 3 |
| IMDG: | Class: 3 | Label: 3 |
| IATA: | Class: 3 | Label: 3 |



### 14.4. Packing group

ADR / RID, IMDG, IATA: II

### 14.5. Environmental hazards

| | |
|---|---|
| ADR / RID: | NO |
| IMDG: | not marine pollutant |
| IATA: | NO |

### 14.6. Special precautions for user

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 33 | Limited Quantities: 1 lt | Tunnel restriction code: (D/E) |
| | Special provision: - | | |
| IMDG: | EMS: F-E, S-D | Limited Quantities: 1 lt | |
| IATA: | Cargo: | Maximum quantity: 60 L | Packaging instructions: 364 |
| | Passengers: | Maximum quantity: 5 L | Packaging instructions: 353 |
| | Special provision: | - | |

### 14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

## SECTION 15. Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EU: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters
Substance listed in Annex 2

**15.2. Chemical safety assessment**

Has not been performed / is not yet available a chemical safety assessment for the substance.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 2** | Flammable liquid, category 2 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **H225** | Highly flammable liquid and vapour. |
| **H319** | Causes serious eye irritation. |
| **H336** | May cause drowsiness or dizziness. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%

## SECTION 16. Other information ... / >>

- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
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14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
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20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
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26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

## SECTION 16. Other information ... / >>

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
08.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Code: **TT49L0078**
Product name **STAIN FORD U717**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Paint product** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

Name **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Full address **Via Bedeschi, 25**
District and Country **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

e-mail address of the competent person responsible for the Safety Data Sheet **gianluca.cerina@icro.it**

Supplier: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy**

### 1.4. Emergency telephone number

For urgent inquiries refer to **There is no known operational emrgency phone number service in UK**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Hazardous to the aquatic environment, chronic toxicity, category 3 | H412 | Harmful to aquatic life with long lasting effects. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --

Signal words: --

Hazard statements:
**H412** Harmful to aquatic life with long lasting effects.

Precautionary statements:
**P273** Avoid release to the environment.

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## SECTION 3. Composition/information on ingredients

**3.2. Mixtures**

Contains:

| Identification | | x = Conc. % | Classification (EC) 1272/2008 (CLP) |
|---|---|---|---|
| **1-METHOXY-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 5 ≤ x < 7 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *EC* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *REACH Reg.* | *01-2119457435-XXXX* | | |
| **DIPROPYLENE GLYCOL MONOMETHYL ETHER** | | | |
| *INDEX* | | 1 ≤ x < 1,5 | **Substance with a community workplace exposure limit.** |
| *EC* | *252-104-2* | | |
| *CAS* | *34590-94-8* | | |
| *REACH Reg.* | *01-2119450011-XXXX* | | |
| **ZINC OXIDE** | | | |
| *INDEX* | *030-013-00-7* | 1 ≤ x < 1,5 | **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *EC* | *215-222-5* | | |
| *CAS* | *1314-13-2* | | |
| *REACH Reg.* | *01-2119463881-XXXX* | | |
| **4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318** |
| *EC* | *218-760-9* | | **LD50 Oral: 1053 mg/kg** |
| *CAS* | *2226-96-2* | | |
| *REACH Reg.* | *01-2119968566-20-XXXX* | | |
| **ALUMINA** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | |
| *EC* | *215-691-6* | | |
| *CAS* | *1344-28-1* | | |
| *REACH Reg.* | *01-2119529248-XXXX* | | |
| **TITANIUM DIOXIDE** | | | |
| *INDEX* | | 0,4 ≤ x < 0,45 | **Classification note according to Annex VI to the CLP Regulation: 10** |
| *EC* | *236-675-5* | | |
| *CAS* | *13463-67-7* | | |
| *REACH Reg.* | *01-2119489379-XXXX* | | |
| **C.I. PIGMENT YELLOW 83** | | | |
| *INDEX* | | 0,3 ≤ x < 0,35 | |
| *EC* | *226-939-8* | | |
| *CAS* | *5567-15-7* | | |
| **ACETONE** | | | |
| *INDEX* | *606-001-00-8* | 0,25 ≤ x < 0,3 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *EC* | *200-662-2* | | |
| *CAS* | *67-64-1* | | |
| *REACH Reg.* | *01-2119471330-XXXX* | | |
| **2-BUTOXYETHANOL** | | | |
| *INDEX* | *603-014-00-0* | 0,15 ≤ x < 0,2 | **Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315** |
| *EC* | *203-905-0* | | **LD50 Oral: 1200 mg/kg, LC50 Inhalation vapours: 3 mg/l/4h** |
| *CAS* | *111-76-2* | | |
| *REACH Reg.* | *01-2119475108-XXXX* | | |
| **RED PIGMENT 221** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | |
| *EC* | *275-639-3* | | |
| *CAS* | *71566-54-6* | | |
| **CARBON BLACK** | | | |
| *INDEX* | | 0,05 ≤ x < 0,09 | |
| *EC* | *215-609-9* | | |
| *CAS* | *1333-86-4* | | |
| *REACH Reg.* | *01-2119384822-XXXX* | | |
| **2-(2-BUTOXYETHOXY)ETHANOL** | | | |
| *INDEX* | *603-096-00-8* | 0,05 ≤ x < 0,09 | **Eye Irrit. 2 H319** |
| *EC* | *203-961-6* | | |
| *CAS* | *112-34-5* | | |
| *REACH Reg.* | *01-2119475104-XXXX* | | |

## SECTION 3. Composition/information on ingredients ... / >>

**2-DIMETHYLAMINOETHANOL**

| | | | |
|---|---|---|---|
| *INDEX* | *603-047-00-0* | 0,02 ≤ x < 0,06 | **Flam. Liq. 3 H226, Acute Tox. 3 H331, Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335** |
| *EC* | *203-542-8* | | **STOT SE 3 H335: ≥ 5%** |
| *CAS* | *108-01-0* | | **LD50 Oral: 1182,7 mg/kg, LD50 Dermal: 1219 mg/kg, LC50 Inhalation vapours: 6 mg/l/4h** |
| *REACH Reg.* | *01-2119492298-XXXX* | | |

**PROPAN-2-OL**

| | | | |
|---|---|---|---|
| *INDEX* | *603-117-00-0* | 0,02 ≤ x < 0,06 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336** |
| *EC* | *200-661-7* | | |
| *CAS* | *67-63-0* | | |
| *REACH Reg.* | *01-2119457558-XXXX* | | |

**TIN DIOXIDE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,03 | |
| *EC* | *242-159-0* | | |
| *CAS* | *18282-10-5* | | |

**C12 -18-ALCHYL DIMETHYL AMINE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,03 | **Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *EC* | *269-923-6* | | **LD50 Oral: 500 mg/kg** |
| *CAS* | *68391-04-8* | | |

**2-METHYL-2H-ISOTHIAZOL-3-ONE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,0015 | **Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH071** |
| *EC* | *220-239-6* | | **Skin Sens. 1 H317: ≥ 0,0015%** |
| *CAS* | *2682-20-4* | | **LD50 Oral: >120 mg/kg, LD50 Dermal: >242 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l** |

**MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE**

| | | | |
|---|---|---|---|
| *INDEX* | *613-167-00-5* | 0 < x < 0,0015 | **Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Classification note according to Annex VI to the CLP Regulation: B** |
| *EC* | *911-418-6* | | **Skin Corr. 1B H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1 H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,6% - < 0,6%** |
| *CAS* | *55965-84-9* | | **ATE Oral: 100 mg/kg, ATE Dermal: 50,001 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l** |
| *REACH Reg.* | *01-2120764691-XXXX* | | |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

No effects requiring implementation of special first aid measures are expected. The following information represents practical indications of correct behaviour in the event of contact with a chemical product, even if not hazardous.
In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Wash immediately and thoroughly with running water. Get medical advice if you feel symptoms.
SKIN: Wash with plenty of water. Get medical advice if you feel symptoms.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice.
INHALATION: Remove to open air. Get medical advice if you feel symptoms.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

## SECTION 4. First aid measures ... / >>

### 4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

### 5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks

## SECTION 7. Handling and storage ... / >>

and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s)**

Information not available

## SECTION 8. Exposure controls/personal protection

**8.1. Control parameters**

Regulatory references:

| | | |
|---|---|---|
| ALB | Shqipëria | VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES “PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË” |
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe |
| DNK | Danmark | BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2024 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid 2024 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ’’σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία’’» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" Oficiālās publikācijas Nr.: 2024/65.2 |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55 |
| NLD | Nederland | Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431 |
| PRT | Portugal | Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön |
| SVK | Slovensko | 121_2024 Z. z. Nariadenie vlády o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym, mutagénnym alebo reprodukčne toxickým faktorom pri práci |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024 |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) |

## SECTION 8. Exposure controls/personal protection ... / >>

2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.

ACGIH ACGIH 2025

### CARBON BLACK

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 3,5 | | | | |
| VLEP | FRA | 3,5 | | | | |
| VLEP | ITA | 3 | | | | |
| WEL | GBR | 3,5 | | | | |
| ACGIH | | 3 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 50 | mg/l |
| Normal value in marine water | | |
| Normal value for fresh water sediment | NPI | |
| Normal value for marine water sediment | NPI | |
| Normal value for water, intermittent release | | |
| Normal value of STP microorganisms | VND | |
| Normal value for the food chain (secondary poisoning) | NPI | |
| Normal value for the terrestrial compartment | NPI | |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation | | | | 0,060 mg/m3 | | | | 1 mg/m3 |

### TIN DIOXIDE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| ACGIH | | 2 | | | | |

### 4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | ITA | 10 | | | | INHAL |
| VLEP | ITA | 3 | | | | RESP |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,03 | mg/l |
| Normal value in marine water | 0,003 | mg/l |
| Normal value for fresh water sediment | 0,126 | mg/kg |
| Normal value for marine water sediment | 0,0169 | mg/kg |
| Normal value for water, intermittent release | 0,54 | mg/l |
| Normal value of STP microorganisms | 430 | mg/l |
| Normal value for the terrestrial compartment | 0,031 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 4 mg/kg/d | | 0,2 mg/kg/d | | | | |
| Inhalation | | 7 mg/m3 | | 0,3 mg/m3 | | | | 1,2 mg/m3 |
| Skin | | 4 mg/kg | | 0,2 mg/kg | | 8 mg/kg | | 0,3 mg/kg/bw |

## SECTION 8. Exposure controls/personal protection ... / >>

### 2-METHYL-2H-ISOTHIAZOL-3-ONE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00339 | mg/l |
| Normal value in marine water | 0,00339 | mg/l |
| Normal value for fresh water sediment | NEA | |
| Normal value for marine water sediment | NPI | |
| Normal value for water, intermittent release | 0,0039 | mg/l |
| Normal value of STP microorganisms | 0,23 | mg/l |
| Normal value for the terrestrial compartment | 0,0471 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 0,053 mg/kg bw/d | | 0,027 mg/kg bw/d | | | | |
| Inhalation | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI |
| Skin | | NPI | NPI | NPI | | NPI | NPI | NPI |

### MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00339 | mg/l |
| Normal value in marine water | 0,00339 | mg/l |
| Normal value for fresh water sediment | 0,027 | mg/kg |
| Normal value for marine water sediment | 0,027 | mg/kg |
| Normal value for water, intermittent release | 0,00339 | mg/l |
| Normal value of STP microorganisms | 0,23 | mg/l |
| Normal value for the terrestrial compartment | 0,01 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 0,11 mg/kg bw/d | | 0,09 mg/kg bw/d | | | | |
| Inhalation | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECTION 8. Exposure controls/personal protection ... / >>

### C12 -18-ALCHYL DIMETHYL AMINE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00026 | mg/l |
| Normal value in marine water | 0,00003 | mg/l |
| Normal value for fresh water sediment | 1,25 | mg/kg |
| Normal value for marine water sediment | 0,125 | mg/kg |
| Normal value for water, intermittent release | 0,00026 | mg/l |
| Normal value of STP microorganisms | 0,13 | mg/l |
| Normal value for the terrestrial compartment | 0,841 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,250 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 0,430 mg/m3 | 1 mg/m3 | 5,4 mg/m3 | 1 mg/m3 | 1,8 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | | NPI | | NPI |

### RED PIGMENT 221

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation | | | | | | 3 mg/m3 | | |

### C.I. PIGMENT YELLOW 83

**Predicted no-effect concentration - PNEC**

| | |
|---|---|
| Normal value in fresh water | NPI |
| Normal value in marine water | NPI |
| Normal value for fresh water sediment | NPI |
| Normal value for marine water sediment | NPI |
| Normal value for water, intermittent release | NPI |
| Normal value of STP microorganisms | NPI |
| Normal value for the terrestrial compartment | NPI |
| Normal value for the atmosphere | NPI |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | NPI | 3 mg/m3 | NPI | 3 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECTION 8. Exposure controls/personal protection ... / >>

### DIPROPYLENE GLYCOL MONOMETHYL ETHER

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 308 | 50 | | | SKIN | |
| TLV | BGR | 308 | 50 | | | SKIN | |
| TLV | CZE | 270 | 43,8 | 550 | 89,3 | SKIN | |
| AGW | DEU | 310 | 50 | 310 | 50 | | 11 |
| MAK | DEU | 310 | 50 | 310 | 50 | | |
| TLV | DNK | 309 | 50 | 618 | 100 | SKIN | E |
| VLA | ESP | 308 | 50 | | | SKIN | |
| TLV | EST | 308 | 50 | | | SKIN | |
| VLEP | FRA | 308 | 50 | | | SKIN | |
| TLV | GRC | 600 | 100 | 900 | 150 | | |
| AK | HUN | 308 | 50 | | | | |
| GVI/KGVI | HRV | 308 | 50 | | | SKIN | |
| VLEP | ITA | 308 | 50 | | | SKIN | |
| RV | LVA | 308 | 50 | | | SKIN | |
| TLV | NOR | 300 | 50 | | | SKIN | |
| TGG | NLD | 300 | | | | | |
| VLE | PRT | 308 | 50 | | | SKIN | |
| NDS/NDSCh | POL | 240 | | 480 | | SKIN | |
| TLV | ROU | 308 | 50 | | | SKIN | |
| NGV/KGV | SWE | 300 | 50 | 450 (C) | 75 (C) | SKIN | |
| NPEL | SVK | 308 | 50 | | | SKIN | |
| MV | SVN | 308 | 50 | 308 | 50 | SKIN | |
| ESD | TUR | 308 | 50 | | | SKIN | |
| WEL | GBR | 308 | 50 | | | SKIN | |
| OEL | EU | 308 | 50 | | | SKIN | |
| ACGIH | | | 50 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 19 | mg/l |
| Normal value in marine water | 1,9 | mg/l |
| Normal value for fresh water sediment | 70,2 | mg/kg |
| Normal value for marine water sediment | 7,02 | mg/kg |
| Normal value for water, intermittent release | 190 | mg/l |
| Normal value of STP microorganisms | 4168 | mg/l |
| Normal value for the terrestrial compartment | 2,74 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 36 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 37,2 mg/m3 | NPI | NPI | NPI | 308 mg/m3 |
| Skin | NPI | NPI | NPI | 121 mg/kg bw/d | NPI | NPI | NPI | 283 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

**TITANIUM DIOXIDE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 10 | | | | RESP | |
| MAK | DEU | 0,3 | | 2,4 | | RESP | Hinweis |
| TLV | DNK | 6 | | 12 | | | Som Ti |
| VLA | ESP | 10 | | | | | |
| TLV | EST | 5 | | | | | |
| VLEP | FRA | 10 | | | | | |
| TLV | GRC | | 10 | | | | |
| GVI/KGVI | HRV | 10 | | | | INHAL | |
| GVI/KGVI | HRV | 4 | | | | RESP | |
| RV | LVA | 10 | | | | | |
| TLV | NOR | 5 | | | | | |
| NDS/NDSCh | POL | 10 | | | | INHAL | |
| TLV | ROU | 10 | | 15 | | | |
| ПДК | RUS | 10 | | | | | a, Ф |
| NGV/KGV | SWE | 5 | | | | | Totaldamm |
| NPEL | SVK | 5 | | | | | |
| WEL | GBR | 10 | | | | INHAL | |
| WEL | GBR | 4 | | | | RESP | |
| ACGIH | | 0,2 | | | | RESP | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | 0,028 mg/m3 | NPI | NPI | NPI | 0,170 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECTION 8. Exposure controls/personal protection ... / >>

**2-(2-BUTOXYETHOXY)ETHANOL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | ALB | 67,5 | 10 | 101,2 | 15 | |
| TLV | BGR | 67,5 | 10 | 101,2 | 15 | |
| TLV | CZE | 67,5 | 10 | 101,2 | 15 | |
| AGW | DEU | 67 | 10 | 100,5 | 15 | Hinweis, 11 |
| MAK | DEU | 67 | 10 | 100,5 | 15 | Hinweis |
| TLV | DNK | 68 | 10 | 101 | 15 | E |
| VLA | ESP | 67,5 | 10 | 101,2 | 15 | |
| VLEP | FRA | 67,5 | 10 | 101,2 | 15 | |
| TLV | GRC | 67,5 | 10 | 101,2 | 15 | |
| AK | HUN | 67,5 | 10 | 101,2 | 15 | |
| GVI/KGVI | HRV | 67,5 | 10 | 101,2 | 15 | |
| VLEP | ITA | 67,5 | 10 | 101,2 | 15 | |
| RV | LVA | 67,5 | 10 | 101,2 | 15 | |
| TLV | NOR | 68 | 10 | | | |
| TGG | NLD | 50 | | 100 | | SKIN |
| VLE | PRT | 67,5 | 10 | 101,2 | 15 | |
| NDS/NDSCh | POL | 67 | | 100 | | |
| TLV | ROU | 67,5 | 10 | 101,2 | 15 | |
| ПДК | RUS | | | 5 | | п |
| NGV/KGV | SWE | 68 | 10 | 101 | 15 | |
| NPEL | SVK | 67,5 | 10 | 101,2 | 15 | |
| MV | SVN | 67,5 | 10 | 101,2 | 15 | |
| ESD | TUR | 67,5 | 10 | 101,2 | 15 | |
| WEL | GBR | 67,5 | 10 | 101,2 | 15 | |
| OEL | EU | 67,5 | 10 | 101,2 | 15 | |
| ACGIH | | 66 | 10 | | | INHAL |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 1 | mg/l |
| Normal value in marine water | 0,1 | mg/l |
| Normal value for fresh water sediment | 4 | mg/kg |
| Normal value for marine water sediment | 0,4 | mg/kg |
| Normal value for water, intermittent release | 3,9 | mg/l |
| Normal value of STP microorganisms | 200 | mg/l |
| Normal value for the food chain (secondary poisoning) | 56 | mg/kg |
| Normal value for the terrestrial compartment | 0,4 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 1,25 mg/kg | | | | |
| Inhalation | 50,6 mg/m3 | NPI | 34 mg/m3 | 34 mg/m3 | 101,2 mg/m3 | NPI | 67,5 mg/m3 | 67,5 mg/m3 |
| Skin | NPI | NPI | NPI | 10 mg/kg | NPI | NEA | | 20 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### ALUMINA

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 10 | | | | INHAL | |
| TLV | BGR | 1,5 | | | | RESP | |
| TLV | DNK | 5 | | 10 | | | Som Al |
| TLV | DNK | 2 | | 4 | | RESP | Som Al |
| VLA | ESP | 10 | | | | | |
| TLV | EST | 10 | | | | | kogu tolm |
| TLV | EST | 4 | | | | RESP | peentolm |
| VLEP | FRA | 10 | | | | | |
| TLV | GRC | | 10 | | | | |
| AK | HUN | 5 | | | | | Al-ra számítva |
| AK | HUN | 2 | | | | RESP | Al-ra számítva |
| GVI/KGVI | HRV | 10 | | | | INHAL | |
| GVI/KGVI | HRV | 4 | | | | RESP | |
| RV | LVA | 6 | | | | | |
| TLV | NOR | 10 | | | | | |
| NDS/NDSCh | POL | 2,5 | | | | INHAL | Na Al |
| NDS/NDSCh | POL | 1,2 | | | | RESP | Na Al |
| TLV | ROU | 2 | | 5 | | | Aerosoli |
| ПДК | RUS | 6 | | | | | a, Ф |
| NPEL | SVK | 4 | | | | INHAL | |
| NPEL | SVK | 1,5 | | | | RESP | |
| WEL | GBR | 10 | | | | INHAL | |
| WEL | GBR | 4 | | | | RESP | |
| ACGIH | | 1 | | | | RESP | Al |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value of STP microorganisms | 20 | mg/l |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 1,32 mg/kg bw/d | | | | |
| Inhalation | | | 0,750 mg/m3 | 0,750 mg/m3 | | | 3 mg/m3 | 3 mg/m3 |

### REACTION MASS OF 5-CHLORO-2- METHYL-2H-ISOTHIAZOL-3-ONE AND 2-METHYL-2H-ISOTHIAZOL-3-ONE (3:1)

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| MAK | DEU | 0,2 | | 0,4 | | INHAL |
| NDS/NDSCh | POL | 0,2 | | 0,4 | | SKIN |

## SECTION 8. Exposure controls/personal protection ... / >>

**2-BUTOXYETHANOL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 98 | 20 | 246 | 50 | SKIN | |
| TLV | BGR | 98 | 20 | 246 | 50 | SKIN | |
| TLV | CZE | 100 | 20,4 | 200 | 40,8 | SKIN | |
| AGW | DEU | 49 | 10 | 98 | 20 | SKIN | |
| MAK | DEU | 49 | 10 | 98 | 20 | SKIN | Hinweis |
| TLV | DNK | 98 | 20 | 246 | 50 | SKIN | E |
| VLA | ESP | 98 | 20 | 245 | 50 | SKIN | |
| TLV | EST | 98 | 20 | 246 | 50 | | |
| VLEP | FRA | 49 | 10 | 246 | 50 | SKIN | |
| TLV | GRC | 120 | 25 | | | | |
| AK | HUN | 98 | 20 | 246 | 50 | SKIN | |
| GVI/KGVI | HRV | 98 | 20 | 246 | 50 | SKIN | |
| VLEP | ITA | 98 | 20 | 246 | 50 | SKIN | |
| RV | LVA | 98 | 20 | 246 | 50 | SKIN | |
| TLV | NOR | 50 | 10 | | | SKIN | |
| TGG | NLD | 100 | | 246 | | SKIN | |
| VLE | PRT | 98 | 20 | 246 | 50 | SKIN | |
| NDS/NDSCh | POL | 98 | | 200 | | SKIN | |
| TLV | ROU | 98 | 20 | 246 | 50 | SKIN | |
| ПДК | RUS | | | 10 | | | п |
| NGV/KGV | SWE | 50 | 10 | 246 | 50 | SKIN | |
| NPEL | SVK | 98 | 20 | 246 | 50 | SKIN | |
| MV | SVN | 98 | 20 | 246 | 50 | SKIN | |
| ESD | TUR | 98 | 20 | 246 | 50 | SKIN | |
| WEL | GBR | 123 | 25 | 246 | 50 | SKIN | |
| OEL | EU | 98 | 20 | 246 | 50 | SKIN | |
| ACGIH | | 97 | 20 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 8,8 | mg/l |
| Normal value in marine water | 0,88 | mg/l |
| Normal value for fresh water sediment | 34,6 | mg/kg |
| Normal value for marine water sediment | 3,46 | mg/kg |
| Normal value for water, intermittent release | 9,1 | mg/l |
| Normal value of STP microorganisms | 463 | mg/l |
| Normal value for the terrestrial compartment | 3,13 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 3,2 mg/kg | | | | |
| Inhalation | | | | 49 mg/m3 | | | | 98 mg/kg |
| Skin | | | | 38 mg/kg | | | | 75 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

**2-DIMETHYLAMINOETHANOL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| GVI/KGVI | HRV | 7,4 | 2 | 22 | 6 | |
| RV | LVA | 5 | | | | |
| ПДК | RUS | | | 5 | | п |
| WEL | GBR | 7,4 | 2 | 22 | 6 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0661 | mg/l |
| Normal value in marine water | 0,004 | mg/l |
| Normal value for fresh water sediment | 0,246 | mg/kg |
| Normal value for marine water sediment | 0,015 | mg/kg |
| Normal value for water, intermittent release | 0,661 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 0,01 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,148 mg/kg/d | | | | |
| Inhalation | NPI | NPI | NPI | 0,43755 mg/m3 | 13,53 mg/m3 | 5,28 mg/m3 | 1,76 mg/m3 | 1,76 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | 0,100 mg/cm2 | 1,2 mg/kg | | 0,25 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### 1-METHOXY-2-PROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 375 | 100 | 568 | 150 | SKIN | |
| TLV | BGR | 375 | 100 | 568 | 150 | SKIN | |
| TLV | CZE | 270 | 72,09 | 550 | 146,84 | SKIN | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | SKIN | E |
| VLA | ESP | 375 | 100 | 568 | 150 | SKIN | |
| TLV | EST | 375 | 100 | 568 | 150 | SKIN | |
| VLEP | FRA | 188 | 50 | 375 | 100 | SKIN | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | SKIN | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | SKIN | |
| RV | LVA | 375 | 100 | 568 | 150 | SKIN | |
| TLV | NOR | 180 | 50 | | | SKIN | |
| TGG | NLD | 375 | | 563 | | SKIN | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | SKIN | |
| TLV | ROU | 375 | 100 | 568 | 150 | SKIN | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | SKIN | |
| NPEL | SVK | 375 | 100 | 568 | 150 | SKIN | |
| MV | SVN | 375 | 100 | 568 | 150 | SKIN | |
| ESD | TUR | 375 | 100 | 568 | 150 | SKIN | |
| WEL | GBR | 375 | 100 | 560 | 150 | SKIN | |
| OEL | EU | 375 | 100 | 568 | 150 | SKIN | |
| ACGIH | | 184 | 50 | 368 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10 | mg/l |
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 52,3 | mg/kg |
| Normal value for marine water sediment | 5,2 | mg/kg |
| Normal value for water, intermittent release | 100 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 4,59 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Skin | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

**PROPAN-2-OL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 980 | | 1225 | | |
| TLV | CZE | 500 | 200 | 1000 | 400 | |
| AGW | DEU | 500 | 200 | 1000 | 400 | |
| MAK | DEU | 500 | 200 | 1000 | 400 | |
| TLV | DNK | 490 | 200 | 980 | 400 | |
| VLA | ESP | 500 | 200 | 1000 | 400 | |
| TLV | EST | 350 | 150 | 600 | 250 | |
| VLEP | FRA | | | 980 | 400 | |
| TLV | GRC | 980 | 400 | 1225 | 500 | |
| AK | HUN | 500 | 200 | 1000 | 400 | SKIN |
| GVI/KGVI | HRV | 999 | 400 | 1250 | 500 | |
| RV | LVA | 350 | | 600 | | |
| TLV | NOR | 245 | 100 | | | |
| TGG | NLD | 650 | | | | |
| NDS/NDSCh | POL | 900 | | 1200 | | SKIN |
| TLV | ROU | 200 | 81 | 500 | 203 | |
| ПДК | RUS | 10 | | 50 | | п |
| NGV/KGV | SWE | 350 | 150 | 600 (C) | 250 (C) | |
| NPEL | SVK | 500 | 200 | 1000 | 400 | |
| MV | SVN | 500 | 200 | 1000 | 400 | |
| ESD | TUR | 980 | 400 | | | |
| WEL | GBR | 999 | 400 | 1250 | 500 | |
| ACGIH | | 492 | 200 | 983 | 400 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 140,9 | mg/l |
| Normal value in marine water | 140,9 | mg/l |
| Normal value for fresh water sediment | 552 | mg/kg |
| Normal value for marine water sediment | 552 | mg/kg |
| Normal value for water, intermittent release | 140,9 | mg/l |
| Normal value of STP microorganisms | 2251 | mg/l |
| Normal value for the food chain (secondary poisoning) | 160 | mg/kg |
| Normal value for the terrestrial compartment | 28 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 26 mg/kg | | | | |
| Inhalation | | | | 89 mg/m3 | | | | 500 mg/m3 |
| Skin | | | | 319 mg/kg | | | | 888 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

**ACETONE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | ALB | 1210 | 500 | | | |
| TLV | BGR | 600 | | 1400 | | |
| TLV | CZE | 800 | 331,4 | 1500 | 621,4 | |
| AGW | DEU | 1200 | 500 | 2400 | 1000 | |
| MAK | DEU | 1200 | 500 | 2400 | 1000 | |
| TLV | DNK | 600 | 250 | 1200 | 500 | E |
| VLA | ESP | 1210 | 500 | | | |
| TLV | EST | 1210 | 500 | | | |
| VLEP | FRA | 1210 | 500 | 2420 | 1000 | |
| TLV | GRC | 1780 | | 3560 | | |
| AK | HUN | 1210 | 500 | | | |
| GVI/KGVI | HRV | 1210 | 500 | | | |
| VLEP | ITA | 1210 | 500 | | | |
| RV | LVA | 1210 | 500 | | | |
| TLV | NOR | 295 | 125 | | | |
| TGG | NLD | 1210 | | 2420 | | |
| VLE | PRT | 1210 | 500 | | | |
| NDS/NDSCh | POL | 600 | | 1800 | | |
| TLV | ROU | 1210 | 500 | | | |
| ПДК | RUS | 200 | | 800 | | п |
| NGV/KGV | SWE | 600 | 250 | 1200 (C) | 500 (C) | |
| NPEL | SVK | 1210 | 500 | | | |
| MV | SVN | 1210 | 500 | 2420 | 1000 | |
| ESD | TUR | 1210 | 500 | | | |
| WEL | GBR | 1210 | 500 | 3620 | 1500 | |
| OEL | EU | 1210 | 500 | | | |
| ACGIH | | | 250 | | 500 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10,6 | mg/l |
| Normal value in marine water | 1,06 | mg/l |
| Normal value for fresh water sediment | 30,4 | mg/l |
| Normal value for marine water sediment | 3,04 | mg/l |
| Normal value for water, intermittent release | 21 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 29,5 | mg/l |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 62 mg/kg bw/d | | | | |
| Inhalation | | | | 200 mg/m3 | 2420 mg/m3 | | | 1210 mg/m3 |
| Skin | | | | 62 mg/kg/d | | | | 186 mg/kg/d |

## SECTION 8. Exposure controls/personal protection ... / >>

**ZINC OXIDE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 5 | | 10 | | като цинк |
| TLV | CZE | 2 | | 5 | | Jako Zn |
| MAK | DEU | 2 | | 4 | | INHAL |
| MAK | DEU | 0,1 | | 0,4 | | RESP |
| TLV | DNK | 4 | | 8 | | Som Zn |
| VLA | ESP | 2 | | 10 | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 5 | | | | |
| VLEP | FRA | 10 | | | | RESP |
| TLV | GRC | 5 | | 10 | | |
| AK | HUN | 5 | | | | |
| GVI/KGVI | HRV | 2 | | 10 | | RESP |
| RV | LVA | 0,5 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 5 | | 10 | | INHAL Na Zn |
| TLV | ROU | 5 | | 10 | | Fumuri |
| ПДК | RUS | 0,5 | | 1,5 | | a |
| NGV/KGV | SWE | 5 | | | | |
| NPEL | SVK | 1 | | 1 | | RESP |
| MV | SVN | 5 | | 20 | | RESP |
| ACGIH | | 2 | | 10 | | RESP |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0144 | mg/l |
| Normal value in marine water | 0,0072 | mg/l |
| Normal value for fresh water sediment | 146,9 | mg/kg |
| Normal value for marine water sediment | 162,2 | mg/kg |
| Normal value of STP microorganisms | 0,1 | mg/l |
| Normal value for the terrestrial compartment | 83,1 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an

**SECTION 8. Exposure controls/personal protection** ... / >>

emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.
Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | brown | | |
| Odour | characteristic | | |
| Melting point / freezing point | 0 | °C | |
| Initial boiling point | 100 | °C | |
| Flammability | not available | | |
| Lower explosive limit | not available | | |
| Upper explosive limit | not available | | |
| Flash point | not applicable | | |
| Auto-ignition temperature | not available | | |
| Decomposition temperature | not available | | |
| pH | 7 | | |
| Kinematic viscosity | not available | | |
| Solubility | soluble in water | | |
| Partition coefficient: n-octanol/water | not available | | |
| Vapour pressure | not available | | |
| Density and/or relative density | 0,99 | g/cm3 | Temperature: 20 °C |
| Relative vapour density | not available | | |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

| | | | | |
|---|---|---|---|---|
| VOC (Directive 2010/75/EU) | 7,78 % | - | 76,98 | g/litre |

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Forms peroxides with: air.
2-BUTOXYETHANOL
Decomposes under the effect of heat.
1-METHOXY-2-PROPANOL
Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

ACETONE
Decomposes under the effect of heat.

### 10.2. Chemical stability

The product is stable in normal conditions of use and storage.

## SECTION 10. Stability and reactivity ... / >>

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
May react violently with: strong oxidising agents.
2-(2-BUTOXYETHOXY)ETHANOL
May react with: oxidising substances.May form peroxides with: oxygen.Develops hydrogen on contact with: aluminium.May form explosive mixtures with: air.
2-BUTOXYETHANOL
May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.
1-METHOXY-2-PROPANOL
May react dangerously with: strong oxidising agents,strong acids.
ACETONE
Risk of explosion on contact with: bromine trifluoride,fluorine dioxide,hydrogen peroxide,nitrosyl chloride,2-methyl-1,3 butadiene,nitromethane,nitrosyl perchlorate.May react dangerously with: potassium tert-butoxide,alkaline hydroxides,bromine,bromoform,isoprene,sodium,sulphur dioxide,chromium trioxide,chromyl chloride,nitric acid,chloroform,peroxymonosulphuric acid,phosphoryl oxychloride,chromosulphuric acid,fluorine,strong oxidising agents,strong reducing agents.Develops flammable gas on contact with: nitrosyl perchlorate.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Avoid exposure to: sources of heat.Possibility of explosion.
2-(2-BUTOXYETHOXY)ETHANOL
Avoid exposure to: air.
2-BUTOXYETHANOL
Avoid exposure to: sources of heat,naked flames.
1-METHOXY-2-PROPANOL
Avoid exposure to: air.
ACETONE
Avoid exposure to: sources of heat,naked flames.

**10.5. Incompatible materials**

2-(2-BUTOXYETHOXY)ETHANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.
1-METHOXY-2-PROPANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.
ACETONE
Incompatible with: acids,oxidising substances.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

2-(2-BUTOXYETHOXY)ETHANOL
May develop: hydrogen.
2-BUTOXYETHANOL
May develop: hydrogen.
ACETONE
May develop: ketenes,irritant substances.

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

## SECTION 11. Toxicological information ... / >>

1-METHOXY-2-PROPANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

2-(2-BUTOXYETHOXY)ETHANOL
WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

2-(2-BUTOXYETHOXY)ETHANOL
May be absorbed by inhalation, ingestion and skin contact; is irritating for the skin and especially for the eyes. May cause damage to the spleen. At room temperature the danger of inhalation is unlikely, due to the low vapour pressure of the substance.

Interactive effects

Information not available

ACUTE TOXICITY

| | |
|---|---|
| ATE (Inhalation - vapours) of the mixture: | > 20 mg/l |
| ATE (Oral) of the mixture: | Not classified (no significant component) |
| ATE (Dermal) of the mixture: | Not classified (no significant component) |

1-METHOXY-2-PROPANOL

| | |
|---|---|
| LD50 (Dermal): | > 2000 mg/kg Rat |
| LD50 (Oral): | > 4016 mg/kg Rat |
| LC50 (Inhalation vapours): | > 6000 ppm/6h Mouse |

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| LD50 (Dermal): | > 9510 mg/kg Rabbit |
| LD50 (Oral): | > 5000 mg/kg Rat |
| LC50 (Inhalation vapours): | > 275 ppm/7h Rat |

ZINC OXIDE

| | |
|---|---|
| LD50 (Dermal): | 2000 mg/kg Rat |
| LD50 (Oral): | 2000 mg/kg Rat |
| LC50 (Inhalation gas): | 1,79 ppm/4h Rat |

4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

| | |
|---|---|
| LD50 (Dermal): | > 2000 mg/kg Rat |
| LD50 (Oral): | 1053 mg/kg Rat |

ALUMINA

| | |
|---|---|
| LD50 (Oral): | > 2000 mg/kg Rat |
| LC50 (Inhalation vapours): | > 888 mg/m3l/4h Rat |

TITANIUM DIOXIDE

| | |
|---|---|
| LD50 (Oral): | > 2000 mg/kg Rat |
| LC50 (Inhalation gas): | > 3,43 mg/l/4h rat |

C.I. PIGMENT YELLOW 83

| | |
|---|---|
| LD50 (Dermal): | 3000 mg/kg Rat |
| LD50 (Oral): | > 15000 mg/kg Rat |
| LC50 (Inhalation vapours): | 230 mg/m3/4h Rat |

ACETONE

| | |
|---|---|
| LD50 (Dermal): | 7400 mg/kg Rabbit |
| LD50 (Oral): | 5800 mg/kg/24h Rat |
| LC50 (Inhalation vapours): | 76 mg/l/4h Rat |

## SECTION 11. Toxicological information ... / >>

2-BUTOXYETHANOL
LD50 (Oral): 1200 mg/kg Guinea pig
LC50 (Inhalation vapours): 3 mg/l/4h Rat

RED PIGMENT 221
LD50 (Oral): > 4640 mg/kg
LC50 (Inhalation gas): 1,7 mg/l/4h

CARBON BLACK
LD50 (Oral): > 8000 mg/kg Rat
LC50 (Inhalation vapours): 0,0046 mg/l/4h Rat

2-(2-BUTOXYETHOXY)ETHANOL
LD50 (Dermal): 2764 mg/kg Rabbit
LD50 (Oral): 2410 mg/kg Rat

2-DIMETHYLAMINOETHANOL
LD50 (Dermal): 1219 mg/kg Rabbit
LD50 (Oral): 1182,7 mg/kg Rat
LC50 (Inhalation vapours): 6 mg/l/4h Rat

PROPAN-2-OL
LD50 (Dermal): 8 mL/kg Rabbit
LD50 (Oral): 4710 mg/kg Rat
LC50 (Inhalation vapours): > 10000 ppm/6h Rat

C12 -18-ALCHYL DIMETHYL AMINE
LD50 (Oral): 500 mg/kg Rat

2-METHYL-2H-ISOTHIAZOL-3-ONE
LD50 (Dermal): > 242 mg/kg Rat
LD50 (Oral): > 120 mg/kg Rat
LC50 (Inhalation vapours): > 100 mg/m3 Rat

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
LD50 (Dermal): 600 mg/kg Rat
LD50 (Oral): 457 mg/kg Rat
LC50 (Inhalation vapours): 0,00123 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

## SECTION 11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

**12.1. Toxicity**

| | |
|---|---|
| 1-METHOXY-2-PROPANOL | |
| LC50 - for Fish | < 20800 mg/l/96h pimephales promelas |
| EC50 - for Crustacea | > 21100 mg/l/48h Daphnia |
| Chronic NOEC for Fish | < 4640 mg/l/96h |
| Chronic NOEC for Algae / Aquatic Plants | > 1000 mg/l/7d selenastrum capricornutum |
| DIPROPYLENE GLYCOL MONOMETHYL ETHER | |
| LC50 - for Fish | > 1000 mg/l/96h Poecillia reticulata |
| EC50 - for Crustacea | 1919 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 969 mg/l/72h Selenastrum capricornutum |
| Chronic NOEC for Crustacea | 0,5 mg/l/22d |
| ZINC OXIDE | |
| LC50 - for Fish | 0,102 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | 105 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 0,022 mg/l/72h Pseudokirchneriella subcapitata |
| EC10 for Algae / Aquatic Plants | 1,31 mg/l/7d |
| Chronic NOEC for Fish | 0,53 mg/l |
| Chronic NOEC for Algae / Aquatic Plants | 0,024 mg/l |
| 4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL | |
| LC50 - for Fish | 545 mg/l/96h Brachydanio rerio |
| EC50 - for Crustacea | 54 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 1038 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea | 1,5 mg/l Daphnia magna |
| ALUMINA | |
| LC50 - for Fish | > 0,078 mg/l/96h |
| EC50 - for Crustacea | > 1,5 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | > 16,9 mg/l/72h |
| Chronic NOEC for Fish | > 57 mg/l/30d |
| Chronic NOEC for Crustacea | > 1034 mg/l |
| Chronic NOEC for Algae / Aquatic Plants | 1 mg/l/6d |
| TITANIUM DIOXIDE | |
| EC50 - for Crustacea | > 2,41 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 100 mg/l/72h |
| EC10 for Algae / Aquatic Plants | 2 mg/l/72h |
| Chronic NOEC for Fish | > 0,004 mg/l/28d |
| Chronic NOEC for Crustacea | 100 mg/l/28d |
| Chronic NOEC for Algae / Aquatic Plants | 1 mg/l/32d |
| C.I. PIGMENT YELLOW 83 | |
| LC50 - for Fish | 100 mg/l/96h |
| EC50 - for Crustacea | > 100 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 100 mg/l/72h |
| EC10 for Crustacea | 1000 mg/l/48h |
| Chronic NOEC for Crustacea | 100 mg/l/48h |
| Chronic NOEC for Algae / Aquatic Plants | 100 mg/l/72h |

## SECTION 12. Ecological information ... / >>

ACETONE

| | |
|---|---|
| LC50 - for Fish | 5540 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | 8800 mg/l/48h Daphnia magna |
| Chronic NOEC for Crustacea | 2212 mg/l Daphnia magna |

RED PIGMENT 221

| | |
|---|---|
| LC50 - for Fish | 100 mg/l/96h |
| EC50 - for Crustacea | 100 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | > 97 mg/l/72h |
| EC10 for Algae / Aquatic Plants | 10 mg/l/72h |
| Chronic NOEC for Crustacea | 10 mg/l |

CARBON BLACK

| | |
|---|---|
| LC50 - for Fish | 1000 mg/l/96h Brachydanio rerio |
| EC50 - for Crustacea | > 5600 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 10000 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Algae / Aquatic Plants | 10000 mg/l Scenedesmus subspicatus |

2-(2-BUTOXYETHOXY)ETHANOL

| | |
|---|---|
| LC50 - for Fish | 1,3 mg/l/96h |
| EC50 - for Crustacea | > 100 mg/l/48h daphnia |
| EC50 - for Algae / Aquatic Plants | 1101 mg/l/72h |

2-DIMETHYLAMINOETHANOL

| | |
|---|---|
| LC50 - for Fish | 146,6 mg/l/96h Leuciscus idus |
| EC50 - for Crustacea | 98,4 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 66,1 mg/l/72h Scenedesmus subspicatus |
| EC10 for Algae / Aquatic Plants | 24,5 mg/l/72h Scenedesmus subspicatus |

PROPAN-2-OL

| | |
|---|---|
| LC50 - for Fish | 9640 mg/l/96h |
| EC50 - for Crustacea | 13299 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 1000 mg/l/72h Desmodesmus subspicatus |

2-METHYL-2H-ISOTHIAZOL-3-ONE

| | |
|---|---|
| LC50 - for Fish | > 4,77 mg/l/96h |
| EC50 - for Crustacea | 1,6 mg/l/48h |
| Chronic NOEC for Fish | > 2,1 mg/l/33d |
| Chronic NOEC for Crustacea | > 0,0442 mg/l/21d |
| Chronic NOEC for Algae / Aquatic Plants | > 10 mg/l/96h |

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | 0,037 mg/l/72h Selenastrum capricornutum |
| Chronic NOEC for Algae / Aquatic Plants | 0,0035 mg/l |

### 12.2. Persistence and degradability

1-METHOXY-2-PROPANOL

| | |
|---|---|
| Solubility in water | 1000 - 10000 mg/l |
| Rapidly degradable | |

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| Solubility in water | 1000 - 10000 mg/l |
| Rapidly degradable | |

ZINC OXIDE

| | |
|---|---|
| Solubility in water | 2,9 mg/l |
| NOT rapidly degradable | |

ALUMINA

| | |
|---|---|
| Solubility in water | < 2E-05 mg/l |
| Degradability: information not available | |

TITANIUM DIOXIDE

| | |
|---|---|
| Solubility in water | < 0,001 mg/l |
| Degradability: information not available | |

## SECTION 12. Ecological information ... / >>

C.I. PIGMENT YELLOW 83
Solubility in water 0,0081 mg/l @ 23 °C

ACETONE
Rapidly degradable

2-BUTOXYETHANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

RED PIGMENT 221
Solubility in water 0,091 mg/l @ 23 °C

CARBON BLACK
Solubility in water 1 mg/l @ 20 °C

2-(2-BUTOXYETHOXY)ETHANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

2-DIMETHYLAMINOETHANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

PROPAN-2-OL
Rapidly degradable

C12 -18-ALCHYL DIMETHYL AMINE
Rapidly degradable

2-METHYL-2H-ISOTHIAZOL-3-ONE
Solubility in water 489 g/l @ 20°C

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
Solubility in water 3000 g/l 20 °C
Inherently degradable

### 12.3. Bioaccumulative potential

1-METHOXY-2-PROPANOL
Partition coefficient: n-octanol/water < 1

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Partition coefficient: n-octanol/water 0,0043

ZINC OXIDE
BCF > 175

C.I. PIGMENT YELLOW 83
Partition coefficient: n-octanol/water 0,02 @ 24 °C

ACETONE
Partition coefficient: n-octanol/water -0,24
BCF 3

2-BUTOXYETHANOL
Partition coefficient: n-octanol/water 0,81

RED PIGMENT 221
Partition coefficient: n-octanol/water -0,57 @ 20 °C

2-(2-BUTOXYETHOXY)ETHANOL
Partition coefficient: n-octanol/water 1

2-DIMETHYLAMINOETHANOL
Partition coefficient: n-octanol/water -0,55

## SECTION 12. Ecological information ... / >>

PROPAN-2-OL
Partition coefficient: n-octanol/water 0,05 Log Kow 25°C

2-METHYL-2H-ISOTHIAZOL-3-ONE
Partition coefficient: n-octanol/water -0,486 @ 20°C

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
Partition coefficient: n-octanol/water 0,75

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. Other adverse effects**

Information not available

## SECTION 13. Disposal considerations

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number or ID number**

not applicable

**14.2. UN proper shipping name**

not applicable

**14.3. Transport hazard class(es)**

not applicable

**14.4. Packing group**

not applicable

## SECTION 14. Transport information ... / >>

**14.5. Environmental hazards**

not applicable

**14.6. Special precautions for user**

not applicable

**14.7. Maritime transport in bulk according to IMO instruments**

Information not relevant

## SECTION 15. Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Information not available

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 2: Hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 2** | Flammable liquid, category 2 |
| **Flam. Liq. 3** | Flammable liquid, category 3 |
| **Acute Tox. 2** | Acute toxicity, category 2 |
| **Acute Tox. 3** | Acute toxicity, category 3 |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **STOT RE 2** | Specific target organ toxicity - repeated exposure, category 2 |
| **Skin Corr. 1B** | Skin corrosion, category 1B |
| **Skin Corr. 1C** | Skin corrosion, category 1C |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **Skin Irrit. 2** | Skin irritation, category 2 |

## SECTION 16. Other information ... / >>

| | |
|---|---|
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **Aquatic Acute 1** | Hazardous to the aquatic environment, acute toxicity, category 1 |
| **Aquatic Chronic 1** | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| **H225** | Highly flammable liquid and vapour. |
| **H226** | Flammable liquid and vapour. |
| **H310** | Fatal in contact with skin. |
| **H330** | Fatal if inhaled. |
| **H301** | Toxic if swallowed. |
| **H311** | Toxic in contact with skin. |
| **H331** | Toxic if inhaled. |
| **H302** | Harmful if swallowed. |
| **H312** | Harmful in contact with skin. |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |
| **H314** | Causes severe skin burns and eye damage. |
| **H318** | Causes serious eye damage. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H335** | May cause respiratory irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H400** | Very toxic to aquatic life. |
| **H410** | Very toxic to aquatic life with long lasting effects. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |
| **EUH071** | Corrosive to the respiratory tract. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament

**SECTION 16. Other information** ... / >>

6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
03 / 08 / 09 / 11 / 12 / 13.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Code: **TT49L0116**
Product name **TINTA L 0116**

UFI : **QFK5-E1A5-400D-Y7QX**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Paint product** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

Name **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Full address **Via Bedeschi, 25**
District and Country **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

e-mail address of the competent person responsible for the Safety Data Sheet **gianluca.cerina@icro.it**

Supplier: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy**

### 1.4. Emergency telephone number

For urgent inquiries refer to **There is no known operational emrgency phone number service in UK**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Serious eye damage, category 1 | H318 | Causes serious eye damage. |
| Hazardous to the aquatic environment, chronic toxicity, category 3 | H412 | Harmful to aquatic life with long lasting effects. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

## SECTION 2. Hazards identification ... / >>

| | |
|---|---|
| **H318** | Causes serious eye damage. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH208** | Contains: 2-METHYL-2H-ISOTHIAZOL-3-ONE<br>MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE<br>C.I. REACTIVE BROWN 11<br>THERE. REACTIVE BLACK 8 Cr<br>May produce an allergic reaction. |

Precautionary statements:

| | |
|---|---|
| **P305+P351+P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| **P280** | Wear eye protection / face protection. |
| **P310** | Immediately call a POISON CENTER or doctor. |
| **P273** | Avoid release to the environment. |

**Contains:** 4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

Product not intended for uses provided for by Directive 2004/42/EC.

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

| Identification | | x = Conc. % | Classification (EC) 1272/2008 (CLP) |
|---|---|---|---|
| **4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL** | | | |
| *INDEX* | | 3,5 ≤ x < 4 | **Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318** |
| *EC* | *218-760-9* | | **LD50 Oral: 1053 mg/kg** |
| *CAS* | *2226-96-2* | | |
| *REACH Reg.* | *01-2119968566-20-XXXX* | | |
| **ZINC OXIDE** | | | |
| *INDEX* | *030-013-00-7* | 0,5 ≤ x < 1 | **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *EC* | *215-222-5* | | |
| *CAS* | *1314-13-2* | | |
| *REACH Reg.* | *01-2119463881-XXXX* | | |
| **THERE. REACTIVE BLACK 8 Cr** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Skin Sens. 1 H317** |
| *EC* | *279-317-3* | | |
| *CAS* | *79828-43-6* | | |
| *REACH Reg.* | *01-2119979578-12-XXXX* | | |
| **C.I. REACTIVE BROWN 11** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | **Skin Sens. 1 H317** |
| *EC* | *274-352-0* | | |
| *CAS* | *70161-16-9* | | |
| **1-METHOXY-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 0,1 ≤ x < 0,15 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *EC* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *REACH Reg.* | *01-2119457435-XXXX* | | |
| **DIPROPYLENE GLYCOL MONOMETHYL ETHER** | | | |
| *INDEX* | | 0,05 ≤ x < 0,09 | **Substance with a community workplace exposure limit.** |
| *EC* | *252-104-2* | | |
| *CAS* | *34590-94-8* | | |
| *REACH Reg.* | *01-2119450011-XXXX* | | |

## SECTION 3. Composition/information on ingredients ... / >>

**MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE**

| | | | |
|---|---|---|---|
| *INDEX* | *613-167-00-5* | 0 < x < 0,0015 | **Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Classification note according to Annex VI to the CLP Regulation: B** |
| *EC* | *911-418-6* | | **Skin Corr. 1B H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1 H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,6% - < 0,6%** |
| *CAS* | *55965-84-9* | | **ATE Oral: 100 mg/kg, ATE Dermal: 50,001 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l** |
| *REACH Reg.* | *01-2120764691-XXXX* | | |

**2-METHYL-2H-ISOTHIAZOL-3-ONE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,0015 | **Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH071** |
| *EC* | *220-239-6* | | **Skin Sens. 1 H317: ≥ 0,0015%** |
| *CAS* | *2682-20-4* | | **LD50 Oral: >120 mg/kg, LD50 Dermal: >242 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l** |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

### 4.3. Indication of any immediate medical attention and special treatment needed

Immediately call a POISON CENTER or doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

## SECTION 5. Firefighting measures ... / >>

Do not breathe combustion products.

**5.3. Advice for firefighters**

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

**6.3. Methods and material for containment and cleaning up**

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

**7.1. Precautions for safe handling**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

**7.2. Conditions for safe storage, including any incompatibilities**

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s)**

Information not available

## SECTION 8. Exposure controls/personal protection

**8.1. Control parameters**

Regulatory references:

| | | |
|---|---|---|
| ALB | Shqipëria | VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES “PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË” |
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung |

**SECTION 8. Exposure controls/personal protection** ... / >>

| | | |
|---|---|---|
| | | gesundheitsschädlicher Arbeitsstoffe |
| DNK | Danmark | BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2024 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid 2024 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" Oficiālās publikācijas Nr.: 2024/65.2 |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55 |
| NLD | Nederland | Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431 |
| PRT | Portugal | Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön |
| SVK | Slovensko | 121_2024 Z. z. Nariadenie vlády o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym, mutagénnym alebo reprodukčne toxickým faktorom pri práci |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024 |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | ACGIH | ACGIH 2025 |

## SECTION 8. Exposure controls/personal protection ... / >>

### HEXADECYL DIMETHYLAMINE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00026 | mg/l |
| Normal value in marine water | 0,00003 | mg/l |
| Normal value for fresh water sediment | 1,25 | mg/kg |
| Normal value for marine water sediment | 0,125 | mg/kg |
| Normal value for water, intermittent release | 0,00026 | mg/l |
| Normal value of STP microorganisms | 0,13 | mg/l |
| Normal value for the terrestrial compartment | 1 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | | | | | 0,500 mg/kg bw/d |
| Inhalation | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

### CARBON BLACK

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 3,5 | | | | |
| VLEP | FRA | 3,5 | | | | |
| VLEP | ITA | 3 | | | | |
| WEL | GBR | 3,5 | | | | |
| ACGIH | | 3 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 50 | mg/l |
| Normal value in marine water | | |
| Normal value for fresh water sediment | NPI | |
| Normal value for marine water sediment | NPI | |
| Normal value for water, intermittent release | | |
| Normal value of STP microorganisms | VND | |
| Normal value for the food chain (secondary poisoning) | NPI | |
| Normal value for the terrestrial compartment | NPI | |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation | | | | 0,060 mg/m3 | | | | 1 mg/m3 |

## SECTION 8. Exposure controls/personal protection ... / >>

### 4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | ITA | 10 | | | | INHAL |
| VLEP | ITA | 3 | | | | RESP |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,03 | mg/l |
| Normal value in marine water | 0,003 | mg/l |
| Normal value for fresh water sediment | 0,126 | mg/kg |
| Normal value for marine water sediment | 0,0169 | mg/kg |
| Normal value for water, intermittent release | 0,54 | mg/l |
| Normal value of STP microorganisms | 430 | mg/l |
| Normal value for the terrestrial compartment | 0,031 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 4 mg/kg/d | | 0,2 mg/kg/d | | | | |
| Inhalation | | 7 mg/m3 | | 0,3 mg/m3 | | | | 1,2 mg/m3 |
| Skin | | 4 mg/kg | | 0,2 mg/kg | | 8 mg/kg | | 0,3 mg/kg/bw |

### 2-METHYL-2H-ISOTHIAZOL-3-ONE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00339 | mg/l |
| Normal value in marine water | 0,00339 | mg/l |
| Normal value for fresh water sediment | NEA | |
| Normal value for marine water sediment | NPI | |
| Normal value for water, intermittent release | 0,0039 | mg/l |
| Normal value of STP microorganisms | 0,23 | mg/l |
| Normal value for the terrestrial compartment | 0,0471 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 0,053 mg/kg bw/d | | 0,027 mg/kg bw/d | | | | |
| Inhalation | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI |
| Skin | | NPI | NPI | NPI | | NPI | NPI | NPI |

## SECTION 8. Exposure controls/personal protection ... / >>

### MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00339 | mg/l |
| Normal value in marine water | 0,00339 | mg/l |
| Normal value for fresh water sediment | 0,027 | mg/kg |
| Normal value for marine water sediment | 0,027 | mg/kg |
| Normal value for water, intermittent release | 0,00339 | mg/l |
| Normal value of STP microorganisms | 0,23 | mg/l |
| Normal value for the terrestrial compartment | 0,01 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 0,11 mg/kg bw/d | | 0,09 mg/kg bw/d | | | | |
| Inhalation | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

### ALKYL (C16-18) DIMETHYLAMINE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00026 | mg/l |
| Normal value in marine water | 0,00003 | mg/l |
| Normal value for fresh water sediment | 1,25 | mg/kg |
| Normal value for marine water sediment | 0,125 | mg/kg |
| Normal value for water, intermittent release | 0,00026 | mg/l |
| Normal value of STP microorganisms | 0,13 | mg/l |
| Normal value for the terrestrial compartment | 1 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 0,500 mg/kg bw/d | | | | |
| Inhalation | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

### ALKYL (C12-16) DIMETHYLAMINE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00026 | mg/l |
| Normal value in marine water | 0,00003 | mg/l |
| Normal value for fresh water sediment | 1,25 | mg/kg |
| Normal value for marine water sediment | 0,125 | mg/kg |
| Normal value for water, intermittent release | 0,00026 | mg/l |
| Normal value of STP microorganisms | 0,13 | mg/l |
| Normal value for the terrestrial compartment | 1 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | | | | | 0,500 mg/kg bw/d |
| Inhalation | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

## SECTION 8. Exposure controls/personal protection ... / >>

### THERE. REACTIVE BLACK 8 Cr

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0782 | mg/l |
| Normal value in marine water | 0,0078 | mg/l |
| Normal value for fresh water sediment | 0,2815 | mg/kg |
| Normal value for marine water sediment | 0,02815 | mg/kg |
| Normal value of STP microorganisms | 4 | mg/l |
| Normal value for the terrestrial compartment | 0,00104 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 2,1 mg/kg bw/d | | | | |
| Inhalation | | | | 14,6 mg/m3 | | | | 29 mg/m3 |
| Skin | | | | 2,1 mg/kg bw/d | | | | 4,17 mg/kg bw/d |

### ALKYL (C12-14) DIMETHYLAMINE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00026 | mg/l |
| Normal value in marine water | 0,00003 | mg/l |
| Normal value for fresh water sediment | 1,25 | mg/kg |
| Normal value for marine water sediment | 0,125 | mg/kg |
| Normal value for water, intermittent release | 0,00026 | mg/l |
| Normal value of STP microorganisms | 0,13 | mg/l |
| Normal value for the terrestrial compartment | 1 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | | | | | 0,500 mg/kg bw/d |
| Inhalation | | | | | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 | 1 mg/m3 |

### C.I. PIGMENT YELLOW 83

**Predicted no-effect concentration - PNEC**

| | |
|---|---|
| Normal value in fresh water | NPI |
| Normal value in marine water | NPI |
| Normal value for fresh water sediment | NPI |
| Normal value for marine water sediment | NPI |
| Normal value for water, intermittent release | NPI |
| Normal value of STP microorganisms | NPI |
| Normal value for the terrestrial compartment | NPI |
| Normal value for the atmosphere | NPI |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | NPI | 3 mg/m3 | NPI | 3 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECTION 8. Exposure controls/personal protection ... / >>

### DIPROPYLENE GLYCOL MONOMETHYL ETHER

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 308 | 50 | | | SKIN | |
| TLV | BGR | 308 | 50 | | | SKIN | |
| TLV | CZE | 270 | 43,8 | 550 | 89,3 | SKIN | |
| AGW | DEU | 310 | 50 | 310 | 50 | | 11 |
| MAK | DEU | 310 | 50 | 310 | 50 | | |
| TLV | DNK | 309 | 50 | 618 | 100 | SKIN | E |
| VLA | ESP | 308 | 50 | | | SKIN | |
| TLV | EST | 308 | 50 | | | SKIN | |
| VLEP | FRA | 308 | 50 | | | SKIN | |
| TLV | GRC | 600 | 100 | 900 | 150 | | |
| AK | HUN | 308 | 50 | | | | |
| GVI/KGVI | HRV | 308 | 50 | | | SKIN | |
| VLEP | ITA | 308 | 50 | | | SKIN | |
| RV | LVA | 308 | 50 | | | SKIN | |
| TLV | NOR | 300 | 50 | | | SKIN | |
| TGG | NLD | 300 | | | | | |
| VLE | PRT | 308 | 50 | | | SKIN | |
| NDS/NDSCh | POL | 240 | | 480 | | SKIN | |
| TLV | ROU | 308 | 50 | | | SKIN | |
| NGV/KGV | SWE | 300 | 50 | 450 (C) | 75 (C) | SKIN | |
| NPEL | SVK | 308 | 50 | | | SKIN | |
| MV | SVN | 308 | 50 | 308 | 50 | SKIN | |
| ESD | TUR | 308 | 50 | | | SKIN | |
| WEL | GBR | 308 | 50 | | | SKIN | |
| OEL | EU | 308 | 50 | | | SKIN | |
| ACGIH | | | 50 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 19 | mg/l |
| Normal value in marine water | 1,9 | mg/l |
| Normal value for fresh water sediment | 70,2 | mg/kg |
| Normal value for marine water sediment | 7,02 | mg/kg |
| Normal value for water, intermittent release | 190 | mg/l |
| Normal value of STP microorganisms | 4168 | mg/l |
| Normal value for the terrestrial compartment | 2,74 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 36 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 37,2 mg/m3 | NPI | NPI | NPI | 308 mg/m3 |
| Skin | NPI | NPI | NPI | 121 mg/kg bw/d | NPI | NPI | NPI | 283 mg/kg bw/d |

### REACTION MASS OF 5-CHLORO-2- METHYL-2H-ISOTHIAZOL-3-ONE AND 2-METHYL-2H-ISOTHIAZOL-3-ONE (3:1)

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| MAK | DEU | 0,2 | | 0,4 | | INHAL |
| NDS/NDSCh | POL | 0,2 | | 0,4 | | SKIN |

## SECTION 8. Exposure controls/personal protection ... / >>

**2-DIMETHYLAMINOETHANOL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| GVI/KGVI | HRV | 7,4 | 2 | 22 | 6 | |
| RV | LVA | 5 | | | | |
| ПДК | RUS | | | 5 | | п |
| WEL | GBR | 7,4 | 2 | 22 | 6 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0661 | mg/l |
| Normal value in marine water | 0,004 | mg/l |
| Normal value for fresh water sediment | 0,246 | mg/kg |
| Normal value for marine water sediment | 0,015 | mg/kg |
| Normal value for water, intermittent release | 0,661 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 0,01 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,148 mg/kg/d | | | | |
| Inhalation | NPI | NPI | NPI | 0,43755 mg/m3 | 13,53 mg/m3 | 5,28 mg/m3 | 1,76 mg/m3 | 1,76 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | 0,100 mg/cm2 | 1,2 mg/kg | | 0,25 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### 1-METHOXY-2-PROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | ALB | 375 | 100 | 568 | 150 | SKIN | |
| TLV | BGR | 375 | 100 | 568 | 150 | SKIN | |
| TLV | CZE | 270 | 72,09 | 550 | 146,84 | SKIN | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | SKIN | E |
| VLA | ESP | 375 | 100 | 568 | 150 | SKIN | |
| TLV | EST | 375 | 100 | 568 | 150 | SKIN | |
| VLEP | FRA | 188 | 50 | 375 | 100 | SKIN | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | SKIN | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | SKIN | |
| RV | LVA | 375 | 100 | 568 | 150 | SKIN | |
| TLV | NOR | 180 | 50 | | | SKIN | |
| TGG | NLD | 375 | | 563 | | SKIN | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | SKIN | |
| TLV | ROU | 375 | 100 | 568 | 150 | SKIN | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | SKIN | |
| NPEL | SVK | 375 | 100 | 568 | 150 | SKIN | |
| MV | SVN | 375 | 100 | 568 | 150 | SKIN | |
| ESD | TUR | 375 | 100 | 568 | 150 | SKIN | |
| WEL | GBR | 375 | 100 | 560 | 150 | SKIN | |
| OEL | EU | 375 | 100 | 568 | 150 | SKIN | |
| ACGIH | | 184 | 50 | 368 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10 | mg/l |
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 52,3 | mg/kg |
| Normal value for marine water sediment | 5,2 | mg/kg |
| Normal value for water, intermittent release | 100 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 4,59 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Skin | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

**ZINC OXIDE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 5 | | 10 | | като цинк |
| TLV | CZE | 2 | | 5 | | Jako Zn |
| MAK | DEU | 2 | | 4 | | INHAL |
| MAK | DEU | 0,1 | | 0,4 | | RESP |
| TLV | DNK | 4 | | 8 | | Som Zn |
| VLA | ESP | 2 | | 10 | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 5 | | | | |
| VLEP | FRA | 10 | | | | RESP |
| TLV | GRC | 5 | | 10 | | |
| AK | HUN | 5 | | | | |
| GVI/KGVI | HRV | 2 | | 10 | | RESP |
| RV | LVA | 0,5 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 5 | | 10 | | INHAL Na Zn |
| TLV | ROU | 5 | | 10 | | Fumuri |
| ПДК | RUS | 0,5 | | 1,5 | | a |
| NGV/KGV | SWE | 5 | | | | |
| NPEL | SVK | 1 | | 1 | | RESP |
| MV | SVN | 5 | | 20 | | RESP |
| ACGIH | | 2 | | 10 | | RESP |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0144 | mg/l |
| Normal value in marine water | 0,0072 | mg/l |
| Normal value for fresh water sediment | 146,9 | mg/kg |
| Normal value for marine water sediment | 162,2 | mg/kg |
| Normal value of STP microorganisms | 0,1 | mg/l |
| Normal value for the terrestrial compartment | 83,1 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the

## SECTION 8. Exposure controls/personal protection ... / >>

threshold values considered. Use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.
Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | brown | | |
| Odour | characteristic | | |
| Odour threshold | not applicable | | |
| Melting point / freezing point | 0 | °C | |
| Initial boiling point | 100 | °C | |
| Boiling range | not applicable | | |
| Flammability | not applicable | | |
| Lower explosive limit | not applicable | | |
| Upper explosive limit | not applicable | | |
| Flash point | not applicable | | |
| Auto-ignition temperature | not applicable | | |
| Decomposition temperature | not applicable | | |
| pH | 7 | | |
| Kinematic viscosity | not available | | |
| Dynamic viscosity | 30.000 cPs | | |
| Solubility | soluble in water | | |
| Partition coefficient: n-octanol/water | not applicable | | |
| Vapour pressure | not determined | | |
| Density and/or relative density | 1 | g/cm3 | Temperature: 20 °C |
| Relative vapour density | not applicable | | |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

| | | |
|---|---|---|
| Evaporation rate | not determined | |
| VOC (Directive 2010/75/EU) | 0,20 % - 1,96 | g/litre |
| Explosive properties | not applicable | |
| Oxidising properties | not applicable | |

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Forms peroxides with: air.
1-METHOXY-2-PROPANOL
Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

## SECTION 10. Stability and reactivity ... / >>

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
May react violently with: strong oxidising agents.
1-METHOXY-2-PROPANOL
May react dangerously with: strong oxidising agents,strong acids.

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Avoid exposure to: sources of heat.Possibility of explosion.
1-METHOXY-2-PROPANOL
Avoid exposure to: air.

**10.5. Incompatible materials**

1-METHOXY-2-PROPANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.

**10.6. Hazardous decomposition products**

Information not available

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

1-METHOXY-2-PROPANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

Interactive effects

Information not available

ACUTE TOXICITY

| | |
|---|---|
| ATE (Inhalation) of the mixture: | Not classified (no significant component) |
| ATE (Oral) of the mixture: | >2000 mg/kg |
| ATE (Dermal) of the mixture: | Not classified (no significant component) |

## SECTION 11. Toxicological information ... / >>

4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): 1053 mg/kg Rat

ZINC OXIDE
LD50 (Dermal): 2000 mg/kg Rat
LD50 (Oral): 2000 mg/kg Rat
LC50 (Inhalation gas): 1,79 ppm/4h Rat

THERE. REACTIVE BLACK 8 Cr
LD50 (Oral): > 5000 mg/kg Rat

1-METHOXY-2-PROPANOL
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalation vapours): > 6000 ppm/6h Mouse

DIPROPYLENE GLYCOL MONOMETHYL ETHER
LD50 (Dermal): > 9510 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalation vapours): > 275 ppm/7h Rat

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
LD50 (Dermal): 600 mg/kg Rat
LD50 (Oral): 457 mg/kg Rat
LC50 (Inhalation vapours): 0,00123 mg/l/4h Rat

2-METHYL-2H-ISOTHIAZOL-3-ONE
LD50 (Dermal): > 242 mg/kg Rat
LD50 (Oral): > 120 mg/kg Rat
LC50 (Inhalation vapours): > 100 mg/m3 Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.
Contains:
2-METHYL-2H-ISOTHIAZOL-3-ONE
MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
C.I. REACTIVE BROWN 11
THERE. REACTIVE BLACK 8 Cr

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

## SECTION 11. Toxicological information ... / >>

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

**12.1. Toxicity**

4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

| | |
|---|---|
| LC50 - for Fish | 545 mg/l/96h Brachydanio rerio |
| EC50 - for Crustacea | 54 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 1038 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea | 1,5 mg/l Daphnia magna |

ZINC OXIDE

| | |
|---|---|
| LC50 - for Fish | 0,102 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | 105 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 0,022 mg/l/72h Pseudokirchneriella subcapitata |
| EC10 for Algae / Aquatic Plants | 1,31 mg/l/7d |
| Chronic NOEC for Fish | 0,53 mg/l |
| Chronic NOEC for Algae / Aquatic Plants | 0,024 mg/l |

THERE. REACTIVE BLACK 8 Cr

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | 78,2 mg/l/72h |
| Chronic NOEC for Algae / Aquatic Plants | 3,2 mg/l |

1-METHOXY-2-PROPANOL

| | |
|---|---|
| LC50 - for Fish | < 20800 mg/l/96h pimephales promelas |
| EC50 - for Crustacea | > 21100 mg/l/48h Daphnia |
| Chronic NOEC for Fish | < 4640 mg/l/96h |
| Chronic NOEC for Algae / Aquatic Plants | > 1000 mg/l/7d selenastrum capricornutum |

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| LC50 - for Fish | > 1000 mg/l/96h Poecillia reticulata |
| EC50 - for Crustacea | 1919 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 969 mg/l/72h Selenastrum capricornutum |
| Chronic NOEC for Crustacea | 0,5 mg/l/22d |

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | 0,037 mg/l/72h Selenastrum capricornutum |
| Chronic NOEC for Algae / Aquatic Plants | 0,0035 mg/l |

2-METHYL-2H-ISOTHIAZOL-3-ONE

| | |
|---|---|
| LC50 - for Fish | > 4,77 mg/l/96h |
| EC50 - for Crustacea | 1,6 mg/l/48h |
| Chronic NOEC for Fish | > 2,1 mg/l/33d |
| Chronic NOEC for Crustacea | > 0,0442 mg/l/21d |
| Chronic NOEC for Algae / Aquatic Plants | > 10 mg/l/96h |

**12.2. Persistence and degradability**

ZINC OXIDE

| | |
|---|---|
| Solubility in water | 2,9 mg/l |
| NOT rapidly degradable | |

THERE. REACTIVE BLACK 8 Cr

| | |
|---|---|
| Solubility in water | 433 g/l @ 20 °C |

## SECTION 12. Ecological information ... / >>

1-METHOXY-2-PROPANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
Solubility in water 3000 g/l 20 °C
Inherently degradable

2-METHYL-2H-ISOTHIAZOL-3-ONE
Solubility in water 489 g/l @ 20°C

**12.3. Bioaccumulative potential**

ZINC OXIDE
BCF > 175

THERE. REACTIVE BLACK 8 Cr
Partition coefficient: n-octanol/water -6,29 @ 20 °C

1-METHOXY-2-PROPANOL
Partition coefficient: n-octanol/water < 1

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Partition coefficient: n-octanol/water 0,0043

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
Partition coefficient: n-octanol/water 0,75

2-METHYL-2H-ISOTHIAZOL-3-ONE
Partition coefficient: n-octanol/water -0,486 @ 20°C

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. Other adverse effects**

Information not available

## SECTION 13. Disposal considerations

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number or ID number**

not applicable

**14.2. UN proper shipping name**

not applicable

**14.3. Transport hazard class(es)**

not applicable

**14.4. Packing group**

not applicable

**14.5. Environmental hazards**

not applicable

**14.6. Special precautions for user**

not applicable

**14.7. Maritime transport in bulk according to IMO instruments**

Information not relevant

## SECTION 15. Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:

## SECTION 15. Regulatory information ... / >>

None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 3** | Flammable liquid, category 3 |
| **Acute Tox. 2** | Acute toxicity, category 2 |
| **Acute Tox. 3** | Acute toxicity, category 3 |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **STOT RE 2** | Specific target organ toxicity - repeated exposure, category 2 |
| **Skin Corr. 1B** | Skin corrosion, category 1B |
| **Skin Corr. 1C** | Skin corrosion, category 1C |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **Skin Irrit. 2** | Skin irritation, category 2 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Aquatic Acute 1** | Hazardous to the aquatic environment, acute toxicity, category 1 |
| **Aquatic Chronic 1** | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| **H226** | Flammable liquid and vapour. |
| **H310** | Fatal in contact with skin. |
| **H330** | Fatal if inhaled. |
| **H301** | Toxic if swallowed. |
| **H311** | Toxic in contact with skin. |
| **H302** | Harmful if swallowed. |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |
| **H314** | Causes severe skin burns and eye damage. |
| **H318** | Causes serious eye damage. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H400** | Very toxic to aquatic life. |
| **H410** | Very toxic to aquatic life with long lasting effects. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH071** | Corrosive to the respiratory tract. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level

## SECTION 16. Other information ... / >>

- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
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26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

## SECTION 16. Other information ... / >>

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
01 / 03 / 08 / 11 / 12.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Code: **TT49L1224**
Product name **TINTA GRIGIO WARM LATI 1224**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Additive for paint products** | ✓ | - | - |
| **Auxiliary materials for paint or varnish for the production of automotive interior parts** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

Name **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Full address **Via Bedeschi, 25**
District and Country **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**
e-mail address of the competent person responsible for the Safety Data Sheet **gianluca.cerina@icro.it**

Supplier: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy**

### 1.4. Emergency telephone number

For urgent inquiries refer to **There is no known operational emrgency phone number service in UK**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Hazardous to the aquatic environment, chronic toxicity, category 3 | H412 | Harmful to aquatic life with long lasting effects. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --

Signal words: --

Hazard statements:

**H412** Harmful to aquatic life with long lasting effects.
**EUH208** Contains: 2-METHYL-2H-ISOTHIAZOL-3-ONE
MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
C.I. REACTIVE BROWN 11
THERE. REACTIVE BLACK 8 Cr
May produce an allergic reaction.

## SECTION 2. Hazards identification ... / >>

Precautionary statements:

**P273** Avoid release to the environment.

Product not intended for uses provided for by Directive 2004/42/EC.

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

| Identification | | x = Conc. % | Classification (EC) 1272/2008 (CLP) |
|---|---|---|---|
| **1-METHOXY-2-PROPANOL** | | | |
| *INDEX* | *603-064-00-3* | 4,5 ≤ x < 5 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *EC* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *REACH Reg.* | *01-2119457435-XXXX* | | |
| **4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318** |
| *EC* | *218-760-9* | | **ATE Oral: 500 mg/kg** |
| *CAS* | *2226-96-2* | | |
| *REACH Reg.* | *01-2119968566-20-XXXX* | | |
| **DIPROPYLENE GLYCOL MONOMETHYL ETHER** | | | |
| *INDEX* | | 0,5 ≤ x < 1 | **Substance with a community workplace exposure limit.** |
| *EC* | *252-104-2* | | |
| *CAS* | *34590-94-8* | | |
| *REACH Reg.* | *01-2119450011-XXXX* | | |
| **ZINC OXIDE** | | | |
| *INDEX* | *030-013-00-7* | 0,5 ≤ x < 1 | **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *EC* | *215-222-5* | | |
| *CAS* | *1314-13-2* | | |
| *REACH Reg.* | *01-2119463881-XXXX* | | |
| **THERE. REACTIVE BLACK 8 Cr** | | | |
| *INDEX* | | 0,45 ≤ x < 0,5 | **Skin Sens. 1 H317** |
| *EC* | *279-317-3* | | |
| *CAS* | *79828-43-6* | | |
| *REACH Reg.* | *01-2119979578-12-XXXX* | | |
| **ALUMINIUM POWDER (STABILISED)** | | | |
| *INDEX* | *013-002-00-1* | 0,35 ≤ x < 0,4 | **Flam. Sol. 1 H228, Water-react. 2 H261, Classification note according to Annex VI to the CLP Regulation: T** |
| *EC* | *231-072-3* | | |
| *CAS* | *7429-90-5* | | |
| *REACH Reg.* | *01-2119529243-XXXX* | | |
| **CARBON BLACK** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | |
| *EC* | *215-609-9* | | |
| *CAS* | *1333-86-4* | | |
| *REACH Reg.* | *01-2119384822-XXXX* | | |
| **C.I. REACTIVE BROWN 11** | | | |
| *INDEX* | | 0,1 ≤ x < 0,15 | **Skin Sens. 1 H317** |
| *EC* | *274-352-0* | | |
| *CAS* | *70161-16-9* | | |
| **VASELINE OIL (PETROLEUM)** | | | |
| *INDEX* | | 0,05 ≤ x < 0,09 | **Asp. Tox. 1 H304** |
| *EC* | *232-455-8* | | |
| *CAS* | *8042-47-5* | | |
| *REACH Reg.* | *01-2119487078-XXXX* | | |

## SECTION 3. Composition/information on ingredients ... / >>

**PROPAN-2-OL**
*INDEX* *603-117-00-0* 0,02 ≤ x < 0,06 **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336**
*EC* *200-661-7*
*CAS* *67-63-0*
*REACH Reg.* *01-2119457558-XXXX*

**2-(2-HEPTADEC-8-ENYL-2-IMIDAZOLIN-1-YL)ETHANOL**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, STOT RE 2 H373, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1**
*EC* *202-414-9* **LD50 Oral: 1000 mg/kg**
*CAS* *95-38-5*
*REACH Reg.* *01-2119777867-XXXX*

**C.I. PIGMENT YELLOW 83**
*INDEX* 0 < x < 0,03
*EC* *226-939-8*
*CAS* *5567-15-7*

**OCTYLPHOSPHONIC ACID**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, STOT RE 2 H373, Skin Corr. 1B H314, Eye Dam. 1 H318**
*EC* *225-218-5* **ATE Oral: 500 mg/kg**
*CAS* *4724-48-5*
*REACH Reg.* *01-2119970569-XXXX*

**2-DIMETHYLAMINOETHANOL**
*INDEX* *603-047-00-0* 0 < x < 0,03 **Flam. Liq. 3 H226, Acute Tox. 3 H331, Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335**
*EC* *203-542-8* **STOT SE 3 H335: ≥ 5%**
*CAS* *108-01-0* **LD50 Oral: 1182,7 mg/kg, LD50 Dermal: 1219 mg/kg, LC50 Inhalation vapours: 6 mg/l/4h**
*REACH Reg.* *01-2119492298-XXXX*

**2-METHYL-2H-ISOTHIAZOL-3-ONE**
*INDEX* *613-088-00-6* 0 < x < 0,03 **Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1**
*EC* *220-120-9* **Skin Sens. 1 H317: ≥ 0,05%**
*CAS* *2634-33-5* **ATE Oral: 500 mg/kg**
*REACH Reg.* *01-2120761540-XXXX*

**C12 -18-ALCHYL DIMETHYL AMINE**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
*EC* *269-923-6* **LD50 Oral: 500 mg/kg**
*CAS* *68391-04-8*

**MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE**
*INDEX* *613-167-00-5* 0 < x < 0,0015 **Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071, Classification note according to Annex VI to the CLP Regulation: B**
*EC* *911-418-6* **Skin Corr. 1B H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1 H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,6% - < 0,6%**
*CAS* *55965-84-9* **ATE Oral: 100 mg/kg, ATE Dermal: 50,001 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l**
*REACH Reg.* *01-2120764691-XXXX*

**2-METHYL-2H-ISOTHIAZOL-3-ONE**
*INDEX* 0 < x < 0,0015 **Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH071**
*EC* *220-239-6* **Skin Sens. 1 H317: ≥ 0,0015%**
*CAS* *2682-20-4* **ATE Oral: 100 mg/kg, ATE Dermal: 300 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l**

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

No effects requiring implementation of special first aid measures are expected. The following information represents practical indications of correct behaviour in the event of contact with a chemical product, even if not hazardous.
In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

## SECTION 4. First aid measures ... / >>

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

### 4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

### 5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

**SECTION 6. Accidental release measures** ... / >>

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

**7.1. Precautions for safe handling**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

**7.2. Conditions for safe storage, including any incompatibilities**

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s)**

Information not available

## SECTION 8. Exposure controls/personal protection

**8.1. Control parameters**

Regulatory references:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska |

## SECTION 8. Exposure controls/personal protection ... / >>

| | | |
|---|---|---|
| | | gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | TLV-ACGIH | ACGIH 2025 |

### CARBON BLACK

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 3,5 | | | | |
| VLEP | FRA | 3,5 | | | | |
| VLEP | ITA | 3 | | | | |
| WEL | GBR | 3,5 | | | | |
| TLV-ACGIH | | 3 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 50 | mg/l |
| Normal value in marine water | | |
| Normal value for fresh water sediment | NPI | |
| Normal value for marine water sediment | NPI | |
| Normal value for water, intermittent release | | |
| Normal value of STP microorganisms | VND | |
| Normal value for the food chain (secondary poisoning) | NPI | |
| Normal value for the terrestrial compartment | NPI | |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation | | | | 0,060 mg/m3 | | | | 1 mg/m3 |

### 4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | ITA | 10 | | | | INHAL |
| VLEP | ITA | 3 | | | | RESP |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,03 | mg/l |
| Normal value in marine water | 0,003 | mg/l |
| Normal value for fresh water sediment | 0,126 | mg/kg |
| Normal value for marine water sediment | 0,0169 | mg/kg |
| Normal value for water, intermittent release | 0,54 | mg/l |
| Normal value of STP microorganisms | 430 | mg/l |
| Normal value for the terrestrial compartment | 0,031 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 4 mg/kg/d | | 0,2 mg/kg/d | | | | |
| Inhalation | | 7 mg/m3 | | 0,3 mg/m3 | | | | 1,2 mg/m3 |
| Skin | | 4 mg/kg | | 0,2 mg/kg | | 8 mg/kg | | 0,3 mg/kg/bw |

## SECTION 8. Exposure controls/personal protection ... / >>

### 2-METHYL-2H-ISOTHIAZOL-3-ONE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00403 | mg/l |
| Normal value in marine water | 0,00040 | mg/l |
| | 3 | |
| Normal value for fresh water sediment | 0,0499 | mg/kg |
| Normal value for marine water sediment | 0,499 | mg/kg |
| Normal value for water, intermittent release | 0,00011 | mg/l |
| Normal value of STP microorganisms | 1,03 | mg/l |
| Normal value for the terrestrial compartment | 3 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | 1,2 mg/m3 | NPI | NPI | NPI | 6,81 mg/m3 |
| Skin | | NPI | | 0,345 mg/kg/d | | NPI | | 0,966 mg/kg/d |

### 2-METHYL-2H-ISOTHIAZOL-3-ONE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00339 | mg/l |
| Normal value in marine water | 0,00339 | mg/l |
| Normal value for fresh water sediment | NEA | |
| Normal value for marine water sediment | NPI | |
| Normal value for water, intermittent release | 0,0039 | mg/l |
| Normal value of STP microorganisms | 0,23 | mg/l |
| Normal value for the terrestrial compartment | 0,0471 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 0,053 mg/kg bw/d | | 0,027 mg/kg bw/d | | | | |
| Inhalation | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI | 0,043 mg/m3 | NPI | 0,021 mg/m3 | NPI |
| Skin | | NPI | NPI | NPI | | NPI | NPI | NPI |

### OCTYLPHOSPHONIC ACID

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,04 | mg/l |
| Normal value in marine water | 0,004 | mg/l |
| Normal value for fresh water sediment | 0,49 | mg/kg |
| Normal value for marine water sediment | 0,049 | mg/kg |
| Normal value for water, intermittent release | 0,4 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 0,075 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 0,02 mg/kg/bw | | | | |
| Inhalation | | | | 0,071 mg/m3 | | | | 0,14 mg/m3 |
| Skin | | | | | | | | 4 mg/kg/bw |

## SECTION 8. Exposure controls/personal protection ... / >>

### MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,2 | | 0,4 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00339 | mg/l |
| Normal value in marine water | 0,00339 | mg/l |
| Normal value for fresh water sediment | 0,027 | mg/kg |
| Normal value for marine water sediment | 0,027 | mg/kg |
| Normal value for water, intermittent release | 0,00339 | mg/l |
| Normal value of STP microorganisms | 0,23 | mg/l |
| Normal value for the terrestrial compartment | 0,01 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 0,11 mg/kg bw/d | | 0,09 mg/kg bw/d | | | | |
| Inhalation | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI | 0,04 mg/m3 | NPI | 0,02 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

### C12 -18-ALCHYL DIMETHYL AMINE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00026 | mg/l |
| Normal value in marine water | 0,00003 | mg/l |
| Normal value for fresh water sediment | 1,25 | mg/kg |
| Normal value for marine water sediment | 0,125 | mg/kg |
| Normal value for water, intermittent release | 0,00026 | mg/l |
| Normal value of STP microorganisms | 0,13 | mg/l |
| Normal value for the terrestrial compartment | 0,841 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,250 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 0,430 mg/m3 | 1 mg/m3 | 5,4 mg/m3 | 1 mg/m3 | 1,8 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | | NPI | | NPI |

### THERE. REACTIVE BLACK 8 Cr

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0782 | mg/l |
| Normal value in marine water | 0,0078 | mg/l |
| Normal value for fresh water sediment | 0,2815 | mg/kg |
| Normal value for marine water sediment | 0,02815 | mg/kg |
| Normal value of STP microorganisms | 4 | mg/l |
| Normal value for the terrestrial compartment | 0,00104 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 2,1 mg/kg bw/d | | | | |
| Inhalation | | | | 14,6 mg/m3 | | | | 29 mg/m3 |
| Skin | | | | 2,1 mg/kg bw/d | | | | 4,17 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### VASELINE OIL (PETROLEUM)

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 5 | | 20 | | RESP |
| TLV | ROU | 5 | | 10 | | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 25 mg/kg bw/d | | | | |
| Inhalation | | | | 34,78 mg/m3 | | | | 164,56 mg/m3 |
| Skin | | | | 93,02 mg/kg bw/d | | | | 217,05 mg/kg bw/d |

### 2-(2-HEPTADEC-8-ENYL-2-IMIDAZOLIN-1-YL)ETHANOL

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,00003 | mg/l |
| Normal value in marine water | 0,00000 3 | mg/l |
| Normal value for fresh water sediment | 0,376 | mg/kg |
| Normal value for marine water sediment | 0,0376 | mg/kg |
| Normal value for water, intermittent release | 0,0003 | mg/l |
| Normal value of STP microorganisms | 0,27 | mg/l |
| Normal value for the terrestrial compartment | 0,075 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation | | | | | | 14 mg/m3 | | 0,46 mg/m3 |
| Skin | | | | | | 2 mg/kg/bw | | 0,06 mg/kg/bw |

### C.I. PIGMENT YELLOW 83

**Predicted no-effect concentration - PNEC**

| | |
|---|---|
| Normal value in fresh water | NPI |
| Normal value in marine water | NPI |
| Normal value for fresh water sediment | NPI |
| Normal value for marine water sediment | NPI |
| Normal value for water, intermittent release | NPI |
| Normal value of STP microorganisms | NPI |
| Normal value for the terrestrial compartment | NPI |
| Normal value for the atmosphere | NPI |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | NPI | 3 mg/m3 | NPI | 3 mg/m3 | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

## SECTION 8. Exposure controls/personal protection ... / >>

**ALUMINIUM POWDER (STABILISED)**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 2 | | | | | |
| MAK | DEU | 4 | | | | INHAL | |
| MAK | DEU | 1,5 | | | | RESP | |
| TLV | DNK | 5 | | | | | |
| TLV | DNK | 2 | | | | RESP | |
| VLA | ESP | 1 | | | | RESP | |
| TLV | EST | 10 | | | | | kogu tolm |
| TLV | EST | 4 | | | | RESP | peentolm |
| VLEP | FRA | 5 | | | | | |
| TLV | GRC | 10 | | | | | |
| AK | HUN | 1 | | | | RESP | |
| GVI/KGVI | HRV | 10 | | | | INHAL | |
| GVI/KGVI | HRV | 4 | | | | RESP | |
| RV | LVA | 2 | | | | | |
| TLV | NOR | 2 | | | | | |
| NDS/NDSCh | POL | 2,5 | | | | INHAL | |
| NGV/KGV | SWE | 5 | | | | | Som Al, Totaldamm |
| NGV/KGV | SWE | 2 | | | | RESP | Som Al |
| NPEL | SVK | 4 | | | | INHAL | |
| NPEL | SVK | 1,5 | | | | RESP | |
| WEL | GBR | 10 | | | | INHAL | |
| WEL | GBR | 4 | | | | RESP | |
| TLV-ACGIH | | 1 | 0,9 | | | RESP | Al |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0749 | mg/l |
| Normal value of STP microorganisms | 20 | mg/l |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 3,95 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | NPI | NPI | NPI | 3,72 mg/m3 | 3,72 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NEA |

## SECTION 8. Exposure controls/personal protection ... / >>

### DIPROPYLENE GLYCOL MONOMETHYL ETHER

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 308 | 50 | | | SKIN | |
| TLV | CZE | 270 | 43,74 | 550 | 89,1 | SKIN | |
| AGW | DEU | 310 | 50 | 310 | 50 | | 11 |
| MAK | DEU | 310 | 50 | 310 | 50 | | |
| TLV | DNK | 309 | 50 | | | SKIN | E |
| VLA | ESP | 308 | 50 | | | SKIN | |
| TLV | EST | 308 | 50 | | | SKIN | |
| VLEP | FRA | 308 | 50 | | | SKIN | |
| TLV | GRC | 600 | 100 | 900 | 150 | | |
| AK | HUN | 308 | 50 | | | | |
| GVI/KGVI | HRV | 308 | 50 | | | SKIN | |
| VLEP | ITA | 308 | 50 | | | SKIN | |
| RV | LVA | 308 | 50 | | | SKIN | |
| TLV | NOR | 300 | 50 | | | SKIN | |
| TGG | NLD | 300 | | | | | |
| VLE | PRT | 308 | 50 | | | SKIN | |
| NDS/NDSCh | POL | 240 | | 480 | | SKIN | |
| TLV | ROU | 308 | 50 | | | SKIN | |
| NGV/KGV | SWE | 300 | 50 | 450 (C) | 75 (C) | SKIN | |
| NPEL | SVK | 308 | 50 | | | SKIN | |
| MV | SVN | 308 | 50 | | | SKIN | |
| ESD | TUR | 308 | 50 | | | SKIN | |
| WEL | GBR | 308 | 50 | | | SKIN | |
| OEL | EU | 308 | 50 | | | SKIN | |
| TLV-ACGIH | | | 50 | | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 19 | mg/l |
| Normal value in marine water | 1,9 | mg/l |
| Normal value for fresh water sediment | 70,2 | mg/kg |
| Normal value for marine water sediment | 7,02 | mg/kg |
| Normal value for water, intermittent release | 190 | mg/l |
| Normal value of STP microorganisms | 4168 | mg/l |
| Normal value for the terrestrial compartment | 2,74 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 36 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 37,2 mg/m3 | NPI | NPI | NPI | 308 mg/m3 |
| Skin | NPI | NPI | NPI | 121 mg/kg bw/d | NPI | NPI | NPI | 283 mg/kg bw/d |

### SODIUM CHLORIDE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| RV | LVA | 5 | | | | |

## SECTION 8. Exposure controls/personal protection ... / >>

**2-DIMETHYLAMINOETHANOL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| GVI/KGVI | HRV | 7,4 | 2 | 22 | 6 | |
| RV | LVA | 5 | | | | |
| WEL | GBR | 7,4 | 2 | 22 | 6 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0661 | mg/l |
| Normal value in marine water | 0,004 | mg/l |
| Normal value for fresh water sediment | 0,246 | mg/kg |
| Normal value for marine water sediment | 0,015 | mg/kg |
| Normal value for water, intermittent release | 0,661 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 0,01 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,148 mg/kg/d | | | | |
| Inhalation | NPI | NPI | NPI | 0,43755 mg/m3 | 13,53 mg/m3 | 5,28 mg/m3 | 1,76 mg/m3 | 1,76 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | 0,100 mg/cm2 | 1,2 mg/kg | | 0,25 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### 1-METHOXY-2-PROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 375 | 100 | 568 | 150 | SKIN | |
| TLV | CZE | 270 | 72,09 | 550 | 146,85 | SKIN | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | SKIN | E |
| VLA | ESP | 375 | 100 | 568 | 150 | SKIN | |
| TLV | EST | 375 | 100 | 568 | 150 | SKIN | |
| VLEP | FRA | 188 | 50 | 375 | 100 | SKIN | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | SKIN | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | SKIN | |
| RV | LVA | 375 | 100 | 568 | 150 | SKIN | |
| TLV | NOR | 180 | 50 | | | SKIN | |
| TGG | NLD | 375 | | 563 | | SKIN | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | SKIN | |
| TLV | ROU | 375 | 100 | 568 | 150 | SKIN | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | SKIN | |
| NPEL | SVK | 375 | 100 | 568 | 150 | SKIN | |
| MV | SVN | 375 | 100 | 568 | 150 | SKIN | |
| ESD | TUR | 375 | 100 | 568 | 150 | SKIN | |
| WEL | GBR | 375 | 100 | 560 | 150 | SKIN | |
| OEL | EU | 375 | 100 | 568 | 150 | SKIN | |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10 | mg/l |
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 52,3 | mg/kg |
| Normal value for marine water sediment | 5,2 | mg/kg |
| Normal value for water, intermittent release | 100 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 4,59 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Skin | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### PROPAN-2-OL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 980 | | 1225 | | |
| TLV | CZE | 500 | 200 | 1000 | 400 | |
| AGW | DEU | 500 | 200 | 1000 | 400 | |
| MAK | DEU | 500 | 200 | 1000 | 400 | |
| TLV | DNK | 490 | 200 | | | |
| VLA | ESP | 500 | 200 | 1000 | 400 | |
| TLV | EST | 350 | 150 | 600 | 250 | |
| VLEP | FRA | | | 980 | 400 | |
| TLV | GRC | 980 | 400 | 1225 | 500 | |
| AK | HUN | 500 | 200 | 1000 | 400 | SKIN |
| GVI/KGVI | HRV | 999 | 400 | 1250 | 500 | |
| RV | LVA | 350 | | 600 | | |
| TLV | NOR | 245 | 100 | | | |
| TGG | NLD | 650 | | | | |
| NDS/NDSCh | POL | 900 | | 1200 | | SKIN |
| TLV | ROU | 200 | 81 | 500 | 203 | |
| NGV/KGV | SWE | 350 | 150 | 600 (C) | 250 (C) | |
| NPEL | SVK | 500 | 200 | 1000 | 400 | |
| MV | SVN | 500 | 200 | 1000 | 400 | |
| ESD | TUR | 980 | 400 | | | |
| WEL | GBR | 999 | 400 | 1250 | 500 | |
| TLV-ACGIH | | 492 | 200 | 983 | 400 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 140,9 | mg/l |
| Normal value in marine water | 140,9 | mg/l |
| Normal value for fresh water sediment | 552 | mg/kg |
| Normal value for marine water sediment | 552 | mg/kg |
| Normal value for water, intermittent release | 140,9 | mg/l |
| Normal value of STP microorganisms | 2251 | mg/l |
| Normal value for the food chain (secondary poisoning) | 160 | mg/kg |
| Normal value for the terrestrial compartment | 28 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 26 mg/kg | | | | |
| Inhalation | | | | 89 mg/m3 | | | | 500 mg/m3 |
| Skin | | | | 319 mg/kg | | | | 888 mg/kg |

### SODIUM SULFATE ANHYDROUS

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| RV | LVA | 10 | | | | |

## SECTION 8. Exposure controls/personal protection ... / >>

**ZINC OXIDE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 5 | | 10 | | като цинк |
| TLV | CZE | 2 | | 5 | | Jako Zn |
| MAK | DEU | 2 | | 4 | | INHAL |
| MAK | DEU | 0,1 | | 0,4 | | RESP |
| TLV | DNK | 4 | | | | Som Zn |
| VLA | ESP | 2 | | 10 | | |
| TLV | EST | 5 | | | | |
| VLEP | FRA | 5 | | | | |
| VLEP | FRA | 10 | | | | RESP |
| TLV | GRC | 5 | | 10 | | |
| AK | HUN | 5 | | | | |
| GVI/KGVI | HRV | 2 | | 10 | | RESP |
| RV | LVA | 0,5 | | | | |
| TLV | NOR | 5 | | | | |
| NDS/NDSCh | POL | 5 | | 10 | | INHAL Na Zn |
| TLV | ROU | 5 | | 10 | | Fumuri |
| NGV/KGV | SWE | 5 | | | | |
| NPEL | SVK | 1 | | 1 | | RESP |
| MV | SVN | 5 | | 20 | | RESP |
| TLV-ACGIH | | 2 | | 10 | | RESP |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0144 | mg/l |
| Normal value in marine water | 0,0072 | mg/l |
| Normal value for fresh water sediment | 146,9 | mg/kg |
| Normal value for marine water sediment | 162,2 | mg/kg |
| Normal value of STP microorganisms | 0,1 | mg/l |
| Normal value for the terrestrial compartment | 83,1 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | NPI | | | | |
| Inhalation | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | NPI |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing

**SECTION 8. Exposure controls/personal protection** ... / >>

apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.
Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | grey | | |
| Odour | characteristic | | |
| Odour threshold | not applicable | | |
| Melting point / freezing point | 0 | °C | |
| Initial boiling point | 100 | °C | |
| Boiling range | not applicable | | |
| Flammability | not applicable | | |
| Lower explosive limit | not applicable | | |
| Upper explosive limit | not applicable | | |
| Flash point | not applicable | | |
| Auto-ignition temperature | not applicable | | |
| Decomposition temperature | not applicable | | |
| pH | 7 | | |
| Kinematic viscosity | not determined | | |
| Solubility | soluble in water | | |
| Partition coefficient: n-octanol/water | not applicable | | |
| Vapour pressure | not determined | | |
| Density and/or relative density | 1,01 | g/cm3 | Temperature: 20 °C |
| Relative vapour density | not applicable | | |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU) 5,71 % - 57,66 g/litre

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Forms peroxides with: air.
1-METHOXY-2-PROPANOL
Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

### 10.2. Chemical stability

The product is stable in normal conditions of use and storage.

### 10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

**SECTION 10. Stability and reactivity** ... / >>

DIPROPYLENE GLYCOL MONOMETHYL ETHER
May react violently with: strong oxidising agents.
1-METHOXY-2-PROPANOL
May react dangerously with: strong oxidising agents,strong acids.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Avoid exposure to: sources of heat.Possibility of explosion.
1-METHOXY-2-PROPANOL
Avoid exposure to: air.

**10.5. Incompatible materials**

1-METHOXY-2-PROPANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

1-METHOXY-2-PROPANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

Interactive effects

Information not available

ACUTE TOXICITY

| | |
|---|---|
| ATE (Inhalation) of the mixture: | Not classified (no significant component) |
| ATE (Oral) of the mixture: | Not classified (no significant component) |
| ATE (Dermal) of the mixture: | Not classified (no significant component) |

CARBON BLACK

| | |
|---|---|
| LD50 (Oral): | > 8000 mg/kg Rat |
| LC50 (Inhalation vapours): | 0,0046 mg/l/4h Rat |

4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

| | |
|---|---|
| LD50 (Dermal): | > 2000 mg/kg Rat |
| LD50 (Oral): | 1053 mg/kg Rat |

## SECTION 11. Toxicological information ... / >>

2-METHYL-2H-ISOTHIAZOL-3-ONE
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): 784 mg/kg Female Rat

2-METHYL-2H-ISOTHIAZOL-3-ONE
LD50 (Dermal): > 242 mg/kg Rat
ATE (Dermal): 300 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral): > 120 mg/kg Rat
LC50 (Inhalation vapours): > 100 mg/m3 Rat

OCTYLPHOSPHONIC ACID
LD50 (Oral): 1890 mg/kg Rat

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
LD50 (Dermal): 600 mg/kg Rat
ATE (Dermal): 50,001 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral): 457 mg/kg Rat
LC50 (Inhalation vapours): 0,00123 mg/l/4h Rat

C12 -18-ALCHYL DIMETHYL AMINE
LD50 (Oral): 500 mg/kg Rat

THERE. REACTIVE BLACK 8 Cr
LD50 (Oral): > 5000 mg/kg Rat

VASELINE OIL (PETROLEUM)
LD50 (Dermal): > 2000 mg/kg
LD50 (Oral): > 5000 mg/kg
LC50 (Inhalation vapours): > 5 mg/l/4h

2-(2-HEPTADEC-8-ENYL-2-IMIDAZOLIN-1-YL)ETHANOL
LD50 (Oral): 1000 mg/kg Rat

C.I. PIGMENT YELLOW 83
LD50 (Dermal): 3000 mg/kg Rat
LD50 (Oral): > 15000 mg/kg Rat
LC50 (Inhalation vapours): 230 mg/m3/4h Rat

ALUMINIUM POWDER (STABILISED)
LD50 (Oral): 15900 mg/kg rat
LC50 (Inhalation mists/powders): 0,888 mg/l/4h Rat

DIPROPYLENE GLYCOL MONOMETHYL ETHER
LD50 (Dermal): > 9510 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalation vapours): > 275 ppm/7h Rat

2-DIMETHYLAMINOETHANOL
LD50 (Dermal): 1219 mg/kg Rabbit
LD50 (Oral): 1182,7 mg/kg Rat
LC50 (Inhalation vapours): 6 mg/l/4h Rat

1-METHOXY-2-PROPANOL
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalation vapours): > 6000 ppm/6h Mouse

PROPAN-2-OL
LD50 (Dermal): 8 mL/kg Rabbit
LD50 (Oral): 4710 mg/kg Rat
LC50 (Inhalation vapours): > 10000 ppm/6h Rat

ZINC OXIDE
LD50 (Dermal): 2000 mg/kg Rat
LD50 (Oral): 2000 mg/kg Rat
LC50 (Inhalation gas): 1,79 ppm/4h Rat

## SECTION 11. Toxicological information ... / >>

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.
Contains:
2-METHYL-2H-ISOTHIAZOL-3-ONE
MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
C.I. REACTIVE BROWN 11
THERE. REACTIVE BLACK 8 Cr

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

**12.1. Toxicity**

CARBON BLACK

| | |
|---|---|
| LC50 - for Fish | 1000 mg/l/96h Brachydanio rerio |
| EC50 - for Crustacea | > 5600 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 10000 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Algae / Aquatic Plants | 10000 mg/l Scenedesmus subspicatus |

4-HYDROXY-2,2,6,6-TETRAMETHYLPIPERIDINOXYL

| | |
|---|---|
| LC50 - for Fish | 545 mg/l/96h Brachydanio rerio |
| EC50 - for Crustacea | 54 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 1038 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea | 1,5 mg/l Daphnia magna |

2-METHYL-2H-ISOTHIAZOL-3-ONE

| | |
|---|---|
| LC50 - for Fish | > 2,15 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | 2,94 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 0,11 mg/l/72h Pseudokirchnerella subcapitata |

## SECTION 12. Ecological information ... / >>

| | |
|---|---|
| Chronic NOEC for Algae / Aquatic Plants | > 0,0403 mg/l/72h skeletonema costatum |

2-METHYL-2H-ISOTHIAZOL-3-ONE

| | |
|---|---|
| LC50 - for Fish | > 4,77 mg/l/96h |
| EC50 - for Crustacea | 1,6 mg/l/48h |
| Chronic NOEC for Fish | > 2,1 mg/l/33d |
| Chronic NOEC for Crustacea | > 0,0442 mg/l/21d |
| Chronic NOEC for Algae / Aquatic Plants | > 10 mg/l/96h |

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | 0,037 mg/l/72h Selenastrum capricornutum |
| Chronic NOEC for Algae / Aquatic Plants | 0,0035 mg/l |

THERE. REACTIVE BLACK 8 Cr

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | 78,2 mg/l/72h |
| Chronic NOEC for Algae / Aquatic Plants | 3,2 mg/l |

C.I. PIGMENT YELLOW 83

| | |
|---|---|
| LC50 - for Fish | 100 mg/l/96h |
| EC50 - for Crustacea | > 100 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 100 mg/l/72h |
| EC10 for Crustacea | 1000 mg/l/48h |
| Chronic NOEC for Crustacea | 100 mg/l/48h |
| Chronic NOEC for Algae / Aquatic Plants | 100 mg/l/72h |

ALUMINIUM POWDER (STABILISED)

| | |
|---|---|
| LC50 - for Fish | 0,0029 mg/l/96h |
| EC50 - for Crustacea | > 1,5 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | > 0,0169 mg/l/72h |
| EC10 for Algae / Aquatic Plants | < 3,155 mg/l/72h |
| Chronic NOEC for Fish | > 0,057 mg/l/30d |
| Chronic NOEC for Crustacea | > 1,092 mg/l |

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| LC50 - for Fish | > 1000 mg/l/96h Poecillia reticulata |
| EC50 - for Crustacea | 1919 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 969 mg/l/72h Selenastrum capricornutum |
| Chronic NOEC for Crustacea | 0,5 mg/l/22d |

2-DIMETHYLAMINOETHANOL

| | |
|---|---|
| LC50 - for Fish | 146,6 mg/l/96h Leuciscus idus |
| EC50 - for Crustacea | 98,4 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 66,1 mg/l/72h Scenedesmus subspicatus |
| EC10 for Algae / Aquatic Plants | 24,5 mg/l/72h Scenedesmus subspicatus |

1-METHOXY-2-PROPANOL

| | |
|---|---|
| LC50 - for Fish | < 20800 mg/l/96h pimephales promelas |
| EC50 - for Crustacea | > 21100 mg/l/48h Daphnia |
| Chronic NOEC for Fish | < 4640 mg/l/96h |
| Chronic NOEC for Algae / Aquatic Plants | > 1000 mg/l/7d selenastrum capricornutum |

PROPAN-2-OL

| | |
|---|---|
| LC50 - for Fish | 9640 mg/l/96h |
| EC50 - for Crustacea | 13299 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 1000 mg/l/72h Desmodesmus subspicatus |

ZINC OXIDE

| | |
|---|---|
| LC50 - for Fish | 0,102 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | 105 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 0,022 mg/l/72h Pseudokirchnerella subcapitata |
| EC10 for Algae / Aquatic Plants | 1,31 mg/l/7d |
| Chronic NOEC for Fish | 0,53 mg/l |
| Chronic NOEC for Algae / Aquatic Plants | 0,024 mg/l |

**12.2. Persistence and degradability**

## SECTION 12. Ecological information ... / >>

CARBON BLACK
Solubility in water 1 mg/l @ 20 °C

2-METHYL-2H-ISOTHIAZOL-3-ONE
NOT rapidly degradable

2-METHYL-2H-ISOTHIAZOL-3-ONE
Solubility in water 489 g/l @ 20°C

OCTYLPHOSPHONIC ACID
Solubility in water 188 mg/l @ 25 °C
Rapidly degradable

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
Solubility in water 3000 g/l 20 °C
Inherently degradable

C12 -18-ALCHYL DIMETHYL AMINE
Rapidly degradable

THERE. REACTIVE BLACK 8 Cr
Solubility in water 433 g/l @ 20 °C

2-(2-HEPTADEC-8-ENYL-2-IMIDAZOLIN-1-YL)ETHANOL
Solubility in water 0,0024 mg/l @ 25 °C

C.I. PIGMENT YELLOW 83
Solubility in water 0,0081 mg/l @ 23 °C

ALUMINIUM POWDER (STABILISED)
Solubility in water
Degradability: information not available

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

2-DIMETHYLAMINOETHANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

1-METHOXY-2-PROPANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

PROPAN-2-OL
Rapidly degradable

ZINC OXIDE
Solubility in water 2,9 mg/l
NOT rapidly degradable

### 12.3. Bioaccumulative potential

2-METHYL-2H-ISOTHIAZOL-3-ONE
Partition coefficient: n-octanol/water 0,7

2-METHYL-2H-ISOTHIAZOL-3-ONE
Partition coefficient: n-octanol/water -0,486 @ 20°C

OCTYLPHOSPHONIC ACID
Partition coefficient: n-octanol/water 2,7 @ 25 °C

MIXTURE OF 5-CHLORO-2-METHYL-3(2H)- ISOTHIAZOLONE AND 2-METHYL-3(2H)-ISOTHIAZOLONE
Partition coefficient: n-octanol/water 0,75

## SECTION 12. Ecological information ... / >>

THERE. REACTIVE BLACK 8 Cr
Partition coefficient: n-octanol/water -6,29 @ 20 °C

2-(2-HEPTADEC-8-ENYL-2-IMIDAZOLIN-1-YL)ETHANOL
Partition coefficient: n-octanol/water 7,51 @ 25 °C

C.I. PIGMENT YELLOW 83
Partition coefficient: n-octanol/water 0,02 @ 24 °C

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Partition coefficient: n-octanol/water 0,0043

2-DIMETHYLAMINOETHANOL
Partition coefficient: n-octanol/water -0,55

1-METHOXY-2-PROPANOL
Partition coefficient: n-octanol/water < 1

PROPAN-2-OL
Partition coefficient: n-octanol/water 0,05 Log Kow 25°C

ZINC OXIDE
BCF > 175

### 12.4. Mobility in soil

Information not available

### 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

### 12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

### 12.7. Other adverse effects

Information not available

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

### 14.1. UN number or ID number

not applicable

### 14.2. UN proper shipping name

not applicable

## SECTION 14. Transport information ... / >>

**14.3. Transport hazard class(es)**

not applicable

**14.4. Packing group**

not applicable

**14.5. Environmental hazards**

not applicable

**14.6. Special precautions for user**

not applicable

**14.7. Maritime transport in bulk according to IMO instruments**

Information not relevant

## SECTION 15. Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Information not available

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 2** | Flammable liquid, category 2 |
| **Flam. Liq. 3** | Flammable liquid, category 3 |
| **Flam. Sol. 1** | Flammable solid, category 1 |
| **Water-react. 2** | Substance or mixture which in contact with water emits flammable gas, category 2 |
| **Acute Tox. 2** | Acute toxicity, category 2 |
| **Acute Tox. 3** | Acute toxicity, category 3 |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **Asp. Tox. 1** | Aspiration hazard, category 1 |
| **STOT RE 2** | Specific target organ toxicity - repeated exposure, category 2 |
| **Skin Corr. 1B** | Skin corrosion, category 1B |
| **Skin Corr. 1C** | Skin corrosion, category 1C |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **Skin Irrit. 2** | Skin irritation, category 2 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **Aquatic Acute 1** | Hazardous to the aquatic environment, acute toxicity, category 1 |
| **Aquatic Chronic 1** | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| **H225** | Highly flammable liquid and vapour. |
| **H226** | Flammable liquid and vapour. |
| **H228** | Flammable solid. |
| **H261** | In contact with water releases flammable gases. |
| **H310** | Fatal in contact with skin. |
| **H330** | Fatal if inhaled. |
| **H301** | Toxic if swallowed. |
| **H311** | Toxic in contact with skin. |
| **H331** | Toxic if inhaled. |
| **H302** | Harmful if swallowed. |
| **H312** | Harmful in contact with skin. |
| **H304** | May be fatal if swallowed and enters airways. |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |
| **H314** | Causes severe skin burns and eye damage. |
| **H318** | Causes serious eye damage. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H335** | May cause respiratory irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H400** | Very toxic to aquatic life. |
| **H410** | Very toxic to aquatic life with long lasting effects. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH071** | Corrosive to the respiratory tract. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic

## SECTION 16. Other information ... / >>

- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

## SECTION 16. Other information ... / >>

Changes to previous review:
The following sections were modified:
03 / 04 / 08 / 11 / 16.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Code: **VPACB42604**
Product name **FIN. ACR. LOW EMISS. B426 Op.04**

UFI : **F607-U0XU-S001-MXVN**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Intermediate coating resins for the production of automotive interior parts** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

Name **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Full address **Via Bedeschi, 25**
District and Country **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**
e-mail address of the competent person responsible for the Safety Data Sheet **gianluca.cerina@icro.it**

Supplier: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy**

### 1.4. Emergency telephone number

For urgent inquiries refer to **There is no known operational emrgency phone number service in UK**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Flammable liquid, category 3 | H226 | Flammable liquid and vapour. |
| Skin sensitization, category 1A | H317 | May cause an allergic skin reaction. |
| Specific target organ toxicity - single exposure, category 3 | H336 | May cause drowsiness or dizziness. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Warning

## SECTION 2. Hazards identification ... / >>

Hazard statements:

| | |
|---|---|
| **H226** | Flammable liquid and vapour. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

Precautionary statements:

| | |
|---|---|
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P280** | Wear protective gloves/ protective clothing / eye protection / face protection. |
| **P370+P378** | In case of fire: use powder to extinguish. |
| **P261** | Avoid breathing dust / fume / gas / mist / vapours / spray. |

**Contains:** MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4- PIPERIDYL SEBACATE
N-BUTYL ACETATE
4-MORPHOLINECARBALDEHYDE
METHYL METHACRYLATE

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

| Identification | | x = Conc. % | Classification (EC) 1272/2008 (CLP) |
|---|---|---|---|
| **N-BUTYL ACETATE** | | | |
| *INDEX* | *607-025-00-1* | 60 ≤ x < 70 | **Flam. Liq. 3 H226, STOT SE 3 H336, EUH066** |
| *EC* | *204-658-1* | | |
| *CAS* | *123-86-4* | | |
| *REACH Reg.* | *01-2119485493-XXXX* | | |
| **2-METHOXY-1-METHYLETHYL ACETATE** | | | |
| *INDEX* | *607-195-00-7* | 5 ≤ x < 7 | **Flam. Liq. 3 H226** |
| *EC* | *203-603-9* | | |
| *CAS* | *108-65-6* | | |
| *REACH Reg.* | *01-2119475791-XXXX* | | |
| **AMORPHOUS SILICATE HYDRATE** | | | |
| *INDEX* | | 3,5 ≤ x < 4 | |
| *EC* | *231-545-4* | | |
| *CAS* | *7631-86-9* | | |
| *REACH Reg.* | *01-2119379499-XXXX* | | |
| **PARAFFIN WAXES AND HYDROCARBON WAXES** | | | |
| *INDEX* | | 1,5 ≤ x < 2 | |
| *EC* | *232-315-6* | | |
| *CAS* | *8002-74-2* | | |
| *REACH Reg.* | *01-2119488076-30-XXXX* | | |
| **ETHYL ACETATE** | | | |
| *INDEX* | *607-022-00-5* | 0,35 ≤ x < 0,4 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *EC* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *REACH Reg.* | *01-2119475103-XXXX* | | |
| **METHYL METHACRYLATE** | | | |
| *INDEX* | *607-035-00-6* | 0,15 ≤ x < 0,2 | **Flam. Liq. 2 H225, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: D** |
| *EC* | *201-297-1* | | |
| *CAS* | *80-62-6* | | |
| *REACH Reg.* | *01-2119452498-XXXX* | | |

## SECTION 3. Composition/information on ingredients ... / >>

**BUTAN-1-OL**
*INDEX* *603-004-00-6* 0,15 ≤ x < 0,2 **Flam. Liq. 3 H226, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336**
*EC* *200-751-6* **ATE Oral: 500 mg/kg**
*CAS* *71-36-3*
*REACH Reg.* *01-2119484630-XXXX*

**MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4-PIPERIDYL SEBACATE**
*INDEX* 0,15 ≤ x < 0,2 **Repr. 2 H361f, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**
*EC* *915-687-0*
*CAS* *1065336-91-5*
*REACH Reg.* *01-2119491304-40-XXXX*

**4-MORPHOLINECARBALDEHYDE**
*INDEX* 0,1 ≤ x < 0,15 **Skin Sens. 1 H317**
*EC* *224-518-3*
*CAS* *4394-85-8*
*REACH Reg.* *01-2119987993-XXXX*

**OXYDIPROPANOL**
*INDEX* 0,1 ≤ x < 0,15
*EC* *246-770-3*
*CAS* *25265-71-8*
*REACH Reg.* *01-2119456811-XXXX*

**1,4-DIAZABICYCLOOCTANE**
*INDEX* 0,02 ≤ x < 0,06 **Flam. Sol. 2 H228, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315**
*EC* *205-999-9* **LD50 Oral: >700 mg/kg**
*CAS* *280-57-9*
*REACH Reg.* *01-2119980944-XXXX*

**2-HYDROXYETHYL METHACRYLATE**
*INDEX* *607-124-00-X* 0,02 ≤ x < 0,06 **Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: D**
*EC* *212-782-2*
*CAS* *868-77-9*
*REACH Reg.* *01-2119490169-XXXX*

**1-METHOXY-2-PROPANOL**
*INDEX* *603-064-00-3* 0,02 ≤ x < 0,06 **Flam. Liq. 3 H226, STOT SE 3 H336**
*EC* *203-539-1*
*CAS* *107-98-2*
*REACH Reg.* *01-2119457435-XXXX*

**LITHIUM CHLORIDE**
*INDEX* 0 < x < 0,03 **Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315**
*EC* *231-212-3* **LD50 Oral: 526 mg/kg**
*CAS* *7447-41-8*
*REACH Reg.* *01-2119560574-XXXX*

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible

## SECTION 4. First aid measures ... / >>

contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

### 4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, contact a POISON CENTER or doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

METHYL METHACRYLATE
Heat may cause the product to polymerise, which could lead to explosion.

### 5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

## SECTION 6. Accidental release measures ... / >>

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

2-METHOXY-1-METHYLETHYL ACETATE
Store in an inert atmosphere, sheletered from moisture because it hydrolises easily.

Storage class TRGS 510 (Germany): 3

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory references:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające |

## SECTION 8. Exposure controls/personal protection ... / >>

| | | |
|---|---|---|
| | | rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | TLV-ACGIH | ACGIH 2025 |

**MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4- PIPERIDYL SEBACATE**

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0022 | mg/l |
| Normal value in marine water | 0,00022 | mg/l |
| Normal value for fresh water sediment | 1,05 | mg/kg |
| Normal value for marine water sediment | 0,11 | mg/kg |
| Normal value for water, intermittent release | 0,009 | mg/l |
| Normal value of STP microorganisms | 1 | mg/l |
| Normal value for the terrestrial compartment | 0,21 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 0,18 mg/kg bw/d | | | | |
| Inhalation | | | | 0,31 mg/m3 | | | | 1,27 mg/m3 |
| Skin | | | | 0,9 mg/kg bw/d | | | | 1,8 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### OXYDIPROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 100 | | 200 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,1 | mg/l |
| Normal value in marine water | 0,01 | mg/l |
| Normal value for fresh water sediment | 0,238 | mg/kg |
| Normal value for marine water sediment | 0,0238 | mg/kg |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 1000 | mg/l |
| Normal value for the food chain (secondary poisoning) | 313 | mg/kg |
| Normal value for the terrestrial compartment | 0,0253 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 24 mg/kg bw/d | | | | |
| Inhalation | | | | 70 mg/m3 | | | | 238 mg/m3 |
| Skin | | | | 51 mg/kg bw/d | | | | 84 mg/kg bw/d |

### 1,4-DIAZABICYCLOOCTANE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,1 | mg/l |
| Normal value in marine water | 0,01 | mg/l |
| Normal value for fresh water sediment | 1,3 | mg/kg |
| Normal value for marine water sediment | 0,13 | mg/kg |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 200 | mg/l |
| Normal value for the terrestrial compartment | 0,19 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 0,5 mg/kg bw/d | | | | |
| Inhalation | | | | 1,46 mg/m3 | | | | 8,24 mg/m3 |
| Skin | | | | 0,50 mg/kg bw/d | | | | 1,4 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### 4-MORPHOLINECARBALDEHYDE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,5 | mg/l |
| Normal value in marine water | 0,05 | mg/l |
| Normal value for fresh water sediment | 1,85 | mg/kg |
| Normal value for marine water sediment | 0,185 | mg/kg |
| Normal value for marine water, intermittent release | 5 | mg/l |
| Normal value of STP microorganisms | 2000 | mg/l |
| Normal value for the terrestrial compartment | 0,0764 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 4,17 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | 13,3 mg/m3 | 8,93 mg/m3 | NPI | NPI | 13,3 mg/m3 | 50,3 mg/m3 |
| Skin | NPI | NPI | MED | 4,17 mg/kg bw/d | NPI | NPI | MED | 11,7 mg/kg bw/d |

### LITHIUM CHLORIDE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10,4 | mg/l |
| Normal value in marine water | 1,04 | mg/l |
| Normal value for fresh water sediment | 49,9 | mg/kg |
| Normal value for marine water sediment | 4,99 | mg/kg |
| Normal value for water, intermittent release | 10,4 | mg/l |
| Normal value of STP microorganisms | 140,2 | mg/l |
| Normal value for the terrestrial compartment | 4,13 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 21,96 mg/kg/d | | 7,32 mg/kg/d | | | | |
| Inhalation | | 30 mg/m3 | | 10 mg/m3 | | 30 mg/m3 | | 10 mg/m3 |
| Skin | | 50 mg/kg/d | | 72,3 mg/kg/d | | 100 mg/kg/d | | 73,2 mg/kg/d |

### PARAFFIN WAXES AND HYDROCARBON WAXES

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV-ACGIH | | 2 | | | | |

## SECTION 8. Exposure controls/personal protection ... / >>

### 2-HYDROXYETHYL METHACRYLATE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,482 | mg/l |
| Normal value in marine water | 0,0482 | mg/l |
| Normal value for fresh water sediment | 3,79 | mg/kg |
| Normal value for marine water sediment | 3,79 | mg/kg |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 0,476 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,830 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 1,45 mg/m3 | NPI | NPI | NPI | 4,9 mg/m3 |
| Skin | NPI | NPI | NPI | 0,830 mg/kg bw/d | NPI | NPI | NPI | 1,39 mg/kg |

### AMORPHOUS SILICATE HYDRATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 4 | | | | INHAL |
| MAK | DEU | 4 | | | | INHAL |
| MAK | DEU | 0,02 | | 0,16 | | RESP |
| TLV | EST | 2 | | | | |
| RV | LVA | 1 | | | | |
| MV | SVN | 4 | | | | INHAL |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation | | | | | | | | 4 mg/m3 |

## SECTION 8. Exposure controls/personal protection ... / >>

### METHYL METHACRYLATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | | 50 | | 100 | | |
| TLV | CZE | 50 | 12 | 150 | 36 | | |
| AGW | DEU | 210 | 50 | 420 | 100 | | |
| MAK | DEU | 210 | 50 | 420 | 100 | | |
| TLV | DNK | 102 | 25 | | 100 | SKIN | E |
| VLA | ESP | | 50 | | 100 | | |
| TLV | EST | | 50 | | 100 | | |
| VLEP | FRA | 205 | 50 | 410 | 100 | | |
| TLV | GRC | | 50 | | 100 | | |
| AK | HUN | 208 | 50 | 415 | 100 | SKIN | |
| GVI/KGVI | HRV | 50 | | 100 | | SKIN | |
| VLEP | ITA | | 50 | | 100 | | |
| RV | LVA | 10 | | | | | |
| TLV | NOR | 100 | 25 | 400 | 100 | | |
| TGG | NLD | 205 | | 410 | | | |
| VLE | PRT | | 50 | | 100 | | |
| NDS/NDSCh | POL | 100 | | 300 | | | |
| TLV | ROU | 205 | 50 | 410 | 100 | | |
| ПДК | RUS | 10 | | 20 | | | п |
| NGV/KGV | SWE | 200 | 50 | 400 | 100 | | |
| NPEL | SVK | | 50 | | 100 | | |
| MV | SVN | 210 | 50 | 420 | 100 | | |
| ESD | TUR | | 50 | | 100 | | |
| WEL | GBR | 208 | 50 | 416 | 100 | | |
| OEL | EU | | 50 | | 100 | | |
| TLV-ACGIH | | 205 | 50 | 410 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,94 | mg/l |
| Normal value in marine water | 0,094 | mg/l |
| Normal value for fresh water sediment | 10,2 | mg/kg |
| Normal value for marine water sediment | 10,2 | mg/kg |
| Normal value for water, intermittent release | 0,69 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 1,48 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 8,2 mg/kg bw/d | | | | |
| Inhalation | 208 mg/m3 | NPI | 104 mg/m3 | 74,3 mg/m3 | 416 mg/m3 | NPI | 208 mg/m3 | 384,4 mg/m3 |
| Skin | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 8,2 mg/kg/d | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 13,67 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### 2-METHOXY-1-METHYLETHYL ACETATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 275 | 50 | 550 | 100 | SKIN | |
| TLV | CZE | 270 | 49,14 | 550 | 100,1 | SKIN | |
| AGW | DEU | 270 | 50 | 270 | 50 | | |
| MAK | DEU | 270 | 50 | 270 | 50 | | |
| TLV | DNK | 275 | 50 | 550 | 100 | SKIN | E |
| VLA | ESP | 275 | 50 | 550 | 100 | SKIN | |
| TLV | EST | 275 | 50 | 550 | 100 | SKIN | |
| VLEP | FRA | 275 | 50 | 550 | 100 | SKIN | |
| TLV | GRC | 275 | 50 | 550 | 100 | | |
| AK | HUN | 275 | 50 | 550 | 100 | | |
| GVI/KGVI | HRV | 275 | 50 | 550 | 100 | SKIN | |
| VLEP | ITA | 275 | 50 | 550 | 100 | SKIN | |
| RV | LVA | 275 | 50 | 550 | 100 | SKIN | |
| TLV | NOR | 270 | 50 | | | SKIN | |
| TGG | NLD | 550 | | | | | |
| VLE | PRT | 275 | 50 | 550 | 100 | SKIN | |
| NDS/NDSCh | POL | 260 | | 520 | | SKIN | |
| TLV | ROU | 275 | 50 | 550 | 100 | SKIN | |
| ПДК | RUS | | | 10 | | | п |
| NGV/KGV | SWE | 275 | 50 | 550 | 100 | SKIN | |
| NPEL | SVK | 275 | 50 | 550 | 100 | SKIN | |
| MV | SVN | 275 | 50 | 550 | 100 | SKIN | |
| ESD | TUR | 275 | 50 | 550 | 100 | SKIN | |
| WEL | GBR | 274 | 50 | 548 | 100 | SKIN | |
| OEL | EU | 275 | 50 | 550 | 100 | SKIN | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,635 | mg/l |
| Normal value in marine water | 0,0635 | mg/l |
| Normal value for fresh water sediment | 3,29 | mg/kg |
| Normal value for marine water sediment | 0,329 | mg/kg |
| Normal value for marine water, intermittent release | 6,35 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 0,29 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 500 mg/kg bw/d | | 36 mg/kg | | | | |
| Inhalation | NPI | NPI | 33 mg/m3 | 33 mg/m3 | 550 mg/m3 | NPI | NPI | 275 mg/m3 |
| Skin | NPI | NPI | NPI | 320 mg/kg | NPI | NPI | NPI | 796 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

**BUTAN-1-OL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 100 | | 150 | | |
| TLV | CZE | 300 | 97,5 | 600 | 195 | |
| AGW | DEU | 310 | 100 | 310 | 100 | |
| MAK | DEU | 310 | 100 | 310 | 100 | |
| TLV | DNK | | | 150 (C) | 50 (C) | SKIN |
| VLA | ESP | 61 | 20 | 154 | 50 | |
| TLV | EST | 45 | 15 | 90 (C) | 30 (C) | SKIN |
| VLEP | FRA | | | 150 | 50 | |
| TLV | GRC | 300 | 100 | 300 | 100 | |
| AK | HUN | 45 | | 90 | | SKIN |
| GVI/KGVI | HRV | | | 154 | 50 | SKIN |
| RV | LVA | 10 | | | | |
| TLV | NOR | 75 | 25 | | | SKIN |
| TGG | NLD | | | 45 | | |
| NDS/NDSCh | POL | 50 | | 150 | | SKIN |
| TLV | ROU | 100 | 33 | 200 | 66 | |
| ПДК | RUS | 10 | | 30 | | п |
| NGV/KGV | SWE | 45 | 15 | 90 | 30 | SKIN |
| NPEL | SVK | 310 | 100 | | | |
| MV | SVN | 310 | 100 | 310 | 100 | |
| ESD | TUR | 300 | 100 | | | |
| WEL | GBR | | | 154 | 50 | SKIN |
| TLV-ACGIH | | 61 | 20 | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,082 | mg/l |
| Normal value in marine water | 0,0082 | mg/l |
| Normal value for fresh water sediment | 0,324 | mg/kg |
| Normal value for marine water sediment | 0,032 | mg/kg |
| Normal value for water, intermittent release | 2,25 | mg/l |
| Normal value of STP microorganisms | 2476 | mg/l |
| Normal value for the terrestrial compartment | 0,017 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 1,562 mg/kg bw/d | | | | |
| Inhalation | | NPI | 155 mg/m3 | 55,357 mg/m3 | | NPI | 310 mg/m3 | |
| Skin | | NPI | | 3,125 mg/kg bw/d | | NPI | | |

## SECTION 8. Exposure controls/personal protection ... / >>

### 1-METHOXY-2-PROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 375 | 100 | 568 | 150 | SKIN | |
| TLV | CZE | 270 | 72,09 | 550 | 146,85 | SKIN | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | SKIN | E |
| VLA | ESP | 375 | 100 | 568 | 150 | SKIN | |
| TLV | EST | 375 | 100 | 568 | 150 | SKIN | |
| VLEP | FRA | 188 | 50 | 375 | 100 | SKIN | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | SKIN | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | SKIN | |
| RV | LVA | 375 | 100 | 568 | 150 | SKIN | |
| TLV | NOR | 180 | 50 | | | SKIN | |
| TGG | NLD | 375 | | 563 | | SKIN | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | SKIN | |
| TLV | ROU | 375 | 100 | 568 | 150 | SKIN | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | SKIN | |
| NPEL | SVK | 375 | 100 | 568 | 150 | SKIN | |
| MV | SVN | 375 | 100 | 568 | 150 | SKIN | |
| ESD | TUR | 375 | 100 | 568 | 150 | SKIN | |
| WEL | GBR | 375 | 100 | 560 | 150 | SKIN | |
| OEL | EU | 375 | 100 | 568 | 150 | SKIN | |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10 | mg/l |
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 52,3 | mg/kg |
| Normal value for marine water sediment | 5,2 | mg/kg |
| Normal value for water, intermittent release | 100 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 4,59 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Skin | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### ETHYL ACETATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | | 1468 | | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| ПДК | RUS | 50 | | 200 | | п |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| TLV-ACGIH | | 1441 | 400 | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,24 | mg/l |
| Normal value in marine water | 0,024 | mg/l |
| Normal value for fresh water sediment | 1,15 | mg/kg |
| Normal value for marine water sediment | 0,115 | mg/kg |
| Normal value for water, intermittent release | 1,65 | mg/l |
| Normal value of STP microorganisms | 650 | mg/l |
| Normal value for the food chain (secondary poisoning) | 200 | mg/kg |
| Normal value for the terrestrial compartment | 0,148 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalation | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Skin | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

**N-BUTYL ACETATE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 710 | | 950 | | |
| TLV | CZE | 241 | | 723 | | |
| AGW | DEU | 300 | 62 | 600 | 124 | |
| MAK | DEU | 480 | 100 | 960 | 200 | |
| TLV | DNK | 241 | 50 | 723 | 150 | E |
| VLA | ESP | 241 | 50 | 723 | 150 | |
| TLV | EST | 500 | 100 | 700 | 150 | |
| VLEP | FRA | 241 | 50 | 723 | 150 | |
| TLV | GRC | 710 | 150 | 950 | 200 | |
| AK | HUN | 241 | 50 | 723 | 150 | |
| GVI/KGVI | HRV | 241 | 50 | 723 | 150 | |
| VLEP | ITA | 241 | 50 | 723 | 150 | |
| RV | LVA | 200 | | | | |
| TLV | NOR | | 75 | | | |
| TGG | NLD | 150 | | | | |
| VLE | PRT | 241 | 50 | 723 | 150 | |
| NDS/NDSCh | POL | 240 | | 720 | | |
| TLV | ROU | 241 | 50 | 723 | 150 | |
| ПДК | RUS | | | 0,1 | | п |
| NGV/KGV | SWE | 241 | 50 | 723 (C) | 150 (C) | |
| NPEL | SVK | 241 | 50 | 723 | 150 | |
| MV | SVN | 300 | 62 | 600 | 124 | |
| ESD | TUR | 241 | 50 | 723 | 150 | |
| WEL | GBR | 724 | 150 | 966 | 200 | |
| OEL | EU | 241 | 50 | 723 | 150 | |
| TLV-ACGIH | | | 50 | | 150 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,18 | mg/l |
| Normal value in marine water | 0,018 | mg/l |
| Normal value for fresh water sediment | 0,981 | mg/kg |
| Normal value for marine water sediment | 0,0981 | mg/kg |
| Normal value for marine water, intermittent release | 0,36 | mg/l |
| Normal value of STP microorganisms | 35,6 | mg/l |
| Normal value for the terrestrial compartment | 0,0903 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 2 mg/kg/d | | 2 mg/kg/d | | | | |
| Inhalation | 300 mg/m3 | 300 mg/m3 | 35,7 mg/m3 | 35,7 mg/m3 | 600 mg/m3 | 600 mg/m3 | 300 mg/m3 | 300 mg/m3 |
| Skin | NPI | 6 mg/kg/d | NPI | 6 mg/kg/d | NPI | 11 mg/kg/d | NPI | 11 mg/kg/d |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION

## SECTION 8. Exposure controls/personal protection ... / >>

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | Milky white | | |
| Odour | typical of solvent | | |
| Odour threshold | not applicable | | |
| Melting point / freezing point | not applicable | | |
| Initial boiling point | 126 | °C | |
| Boiling range | 126-130 | °C | |
| Flammability | not applicable | | |
| Lower explosive limit | 1,7 | % (v/v) | Temperature: 20 °C |
| Upper explosive limit | 7,6 | % (v/v) | Temperature: 20 °C |
| Flash point | 27 | °C | |
| Auto-ignition temperature | 404 | °C | |
| Decomposition temperature | not applicable | | |
| pH | not applicable | | |
| Kinematic viscosity | not applicable | | |
| Solubility | soluble in organic solvents | | |
| Partition coefficient: n-octanol/water | not applicable | | |
| Vapour pressure | not determined | | |
| Density and/or relative density | 0,97 | | |
| Relative vapour density | 4 | | |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

| | | | | |
|---|---|---|---|---|
| Evaporation rate | not determined | | | |
| VOC (Directive 2010/75/EU) | 67,91 % | - | 658,74 | g/litre |
| VOC (volatile carbon) | 41,54 % | - | 402,95 | g/litre |
| Explosive properties | not applicable | | | |
| Oxidising properties | not applicable | | | |

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

## SECTION 10. Stability and reactivity ... / >>

2-METHOXY-1-METHYLETHYL ACETATE
Stable in normal conditions of use and storage.
With the air it may slowly develop peroxides that explode with an increase in temperature.

BUTAN-1-OL
Attacks various types of plastic materials.
1-METHOXY-2-PROPANOL
Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

ETHYL ACETATE
Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

N-BUTYL ACETATE
Decomposes on contact with: water.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

METHYL METHACRYLATE
May polymerise on contact with: ammonia,organic peroxides,persulphates.Risk of explosion on contact with: dibenzoyl peroxide,diterbutyl peroxide,propionaldehyde.May react dangerously with: strong oxidising agents.Forms explosive mixtures with: air.
2-METHOXY-1-METHYLETHYL ACETATE
May react violently with: oxidising substances,strong acids,alkaline metals.
BUTAN-1-OL
Reacts violently developing heat on contact with: aluminium,strong oxidising agents,strong reducing agents,hydrochloric acid.Forms explosive mixtures with: air.
1-METHOXY-2-PROPANOL
May react dangerously with: strong oxidising agents,strong acids.
ETHYL ACETATE
Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.
N-BUTYL ACETATE
Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

METHYL METHACRYLATE
Avoid exposure to: heat,UV rays.Avoid contact with: oxidising substances,reducing substances,acids,bases.
BUTAN-1-OL
Avoid exposure to: sources of heat,naked flames.
1-METHOXY-2-PROPANOL
Avoid exposure to: air.
ETHYL ACETATE
Avoid exposure to: light,sources of heat,naked flames.
N-BUTYL ACETATE
Avoid exposure to: moisture,sources of heat,naked flames.

**10.5. Incompatible materials**

2-METHOXY-1-METHYLETHYL ACETATE
Incompatible with: oxidising substances,strong acids,alkaline metals.
1-METHOXY-2-PROPANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.
ETHYL ACETATE
Incompatible with: acids,bases,strong oxidants,chlorosulphuric acid.
N-BUTYL ACETATE
Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

METHYL METHACRYLATE
When heated to decomposition releases: harsh fumes,zinc alloys.

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

2-METHOXY-1-METHYLETHYL ACETATE
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

2-METHOXY-1-METHYLETHYL ACETATE
WORKERS: inhalation; contact with the skin.

1-METHOXY-2-PROPANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE
WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

2-METHOXY-1-METHYLETHYL ACETATE
Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

1-METHOXY-2-PROPANOL
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

N-BUTYL ACETATE
In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

N-BUTYL ACETATE
A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

| | |
|---|---|
| ATE (Inhalation) of the mixture: | Not classified (no significant component) |
| ATE (Oral) of the mixture: | Not classified (no significant component) |
| ATE (Dermal) of the mixture: | Not classified (no significant component) |

MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4-PIPERIDYL SEBACATE

| | |
|---|---|
| LD50 (Dermal): | > 3000 mg/kg Rat |
| LD50 (Oral): | > 3000 mg/kg Rat |

## SECTION 11. Toxicological information ... / >>

OXYDIPROPANOL
LD50 (Dermal): > 5010 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalation vapours): > 2,34 mg/l/4h Rat

1,4-DIAZABICYCLOOCTANE
LD50 (Dermal): > 2000 mg/kg Rabbit
LD50 (Oral): > 700 mg/kg Rat

4-MORPHOLINECARBALDEHYDE
LD50 (Dermal): > 18400 mg/kg Rat
LD50 (Oral): 7314 mg/kg Rat
LC50 (Inhalation vapours): > 5,319 mg/l/4h Rat

LITHIUM CHLORIDE
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): 526 mg/kg Rat
LC50 (Inhalation vapours): > 5,57 mg/l/4h Rat

PARAFFIN WAXES AND HYDROCARBON WAXES
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 5000 mg/kg Rat Female

2-HYDROXYETHYL METHACRYLATE
LD50 (Dermal): 5000 mg/kg Rabbit
LD50 (Oral): 2000 mg/kg Rat

AMORPHOUS SILICATE HYDRATE
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 2000 mg/kg Rat
LC50 (Inhalation mists/powders): > 2,2 mg/l/1h Rat

METHYL METHACRYLATE
LD50 (Dermal): 5000 mg/kg rabbit
LD50 (Oral): 7900 mg/kg rat
LC50 (Inhalation vapours): 29,8 mg/l/4h rat

2-METHOXY-1-METHYLETHYL ACETATE
LD50 (Dermal): 2000 mg/kg Rat
LD50 (Oral): > 5155 mg/kg Rat

BUTAN-1-OL
LD50 (Dermal): 3430 mg/kg Rabbit
LD50 (Oral): 2292 mg/kg Rat
LC50 (Inhalation vapours): > 17,76 ppm/4h Rat

1-METHOXY-2-PROPANOL
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalation vapours): > 6000 ppm/6h Mouse

ETHYL ACETATE
LD50 (Dermal): > 20000 mg/kg rabbit
LD50 (Oral): 5620 mg/kg rat
LC50 (Inhalation mists/powders): 11,72 mg/l/4h rat

N-BUTYL ACETATE
LD50 (Dermal): > 14000 mg/kg bw/d Rabbit
LD50 (Oral): 10736 mg/kg Rat
LC50 (Inhalation vapours): > 21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

## SECTION 11. Toxicological information ... / >>

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

**12.1. Toxicity**

OXYDIPROPANOL

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | > 100 mg/l/72h Desmodesmus subspicatus |

1,4-DIAZABICYCLOOCTANE

| | |
|---|---|
| EC50 - for Algae / Aquatic Plants | 110 mg/l/72h |
| Chronic NOEC for Algae / Aquatic Plants | 56 mg/l |

4-MORPHOLINECARBALDEHYDE

| | |
|---|---|
| LC50 - for Fish | 500 mg/l/96h |
| EC50 - for Crustacea | 500 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 17440 mg/l/72h |
| EC10 for Algae / Aquatic Plants | 10760 mg/l/72h |
| Chronic NOEC for Crustacea | 38 mg/l/21d |

LITHIUM CHLORIDE

| | |
|---|---|
| LC50 - for Fish | 158 mg/l/96h oncorhynchus mykiss |
| EC50 - for Crustacea | > 100 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 400 mg/l/72h |

PARAFFIN WAXES AND HYDROCARBON WAXES

| | |
|---|---|
| LC50 - for Fish | > 1000 mg/l/96h Onchorynchus mykiss |
| EC50 - for Crustacea | > 10000 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 1000 mg/l/72h Scenedesmus subspicatus |

2-HYDROXYETHYL METHACRYLATE

| | |
|---|---|
| LC50 - for Fish | 100 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 380 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 345 mg/l/72h |
| Chronic NOEC for Crustacea | 24,1 mg/l/21d |

## SECTION 12. Ecological information ... / >>

| | |
|---|---|
| Chronic NOEC for Algae / Aquatic Plants | 160 mg/l/72h |
| METHYL METHACRYLATE | |
| LC50 - for Fish | > 79 mg/l/96h oncorhynchus mykiss |
| EC50 - for Crustacea | 69 mg/l/48h daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 110 mg/l/72h Pseudokirchneriella subcapitata |
| Chronic NOEC for Crustacea | 37 mg/l Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants | 49 mg/l Pseudokirchneriella subcapitata |
| 2-METHOXY-1-METHYLETHYL ACETATE | |
| LC50 - for Fish | > 100 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | > 500 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 1000 mg/l/72h selenastrum capricornutum |
| Chronic NOEC for Fish | 47,5 mg/l/14d Oryzias latipes |
| Chronic NOEC for Crustacea | 100 mg/l/21d Daphnia |
| Chronic NOEC for Algae / Aquatic Plants | 1000 mg/l/72h |
| BUTAN-1-OL | |
| LC50 - for Fish | 1376 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 1328 mg/l/48h Daphnia magna |
| 1-METHOXY-2-PROPANOL | |
| LC50 - for Fish | < 20800 mg/l/96h pimephales promelas |
| EC50 - for Crustacea | > 21100 mg/l/48h Daphnia |
| Chronic NOEC for Fish | < 4640 mg/l/96h |
| Chronic NOEC for Algae / Aquatic Plants | > 1000 mg/l/7d selenastrum capricornutum |
| ETHYL ACETATE | |
| LC50 - for Fish | 230 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 165 mg/l/48h Daphnia cucullata |
| EC10 for Algae / Aquatic Plants | 2,3 mg/l/48h |
| Chronic NOEC for Fish | 9,65 mg/l/32d pimephales promelas |
| Chronic NOEC for Crustacea | 2,4 mg/l/21d Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants | 100 mg/l/72h Scenedesmus subspicatus |
| N-BUTYL ACETATE | |
| LC50 - for Fish | 18 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 44 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 675 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea | 23 mg/l/21d Daphnia magna |

### 12.2. Persistence and degradability

| | |
|---|---|
| 1,4-DIAZABICYCLOOCTANE | |
| Solubility in water | 610000 mg/l @ 25°C |
| 4-MORPHOLINECARBALDEHYDE | |
| Solubility in water | 1000 g/l @ 20°C |
| LITHIUM CHLORIDE | |
| Solubility in water | 569 g/l @ 20°C |
| 2-HYDROXYETHYL METHACRYLATE | |
| Solubility in water | 100 g/l @ 25°C |
| AMORPHOUS SILICATE HYDRATE | |
| Solubility in water | 0,1 - 100 mg/l |
| Degradability: information not available | |
| METHYL METHACRYLATE | |
| Solubility in water | 15300 mg/l |
| Rapidly degradable | |
| 2-METHOXY-1-METHYLETHYL ACETATE | |
| Solubility in water | 198 g/l 20°C |
| Rapidly degradable | |

## SECTION 12. Ecological information ... / >>

| | |
|---|---|
| BUTAN-1-OL | |
| Solubility in water | 66 g/l |
| Rapidly degradable | |
| 1-METHOXY-2-PROPANOL | |
| Solubility in water | 1000 - 10000 mg/l |
| Rapidly degradable | |
| ETHYL ACETATE | |
| Solubility in water | > 10000 mg/l |
| Rapidly degradable | |
| N-BUTYL ACETATE | |
| Solubility in water | 5300 mg/l |
| Rapidly degradable | |

### 12.3. Bioaccumulative potential

| | |
|---|---|
| OXYDIPROPANOL | |
| Partition coefficient: n-octanol/water | -0,46 @ 20°C |
| 1,4-DIAZABICYCLOOCTANE | |
| Partition coefficient: n-octanol/water | -0,49 @ 20°C |
| BCF | 13 |
| 4-MORPHOLINECARBALDEHYDE | |
| Partition coefficient: n-octanol/water | -1,2 @ 23°C |
| BCF | 1,9 l/kg |
| LITHIUM CHLORIDE | |
| Partition coefficient: n-octanol/water | -1 |
| 2-HYDROXYETHYL METHACRYLATE | |
| Partition coefficient: n-octanol/water | 0,42 Log Kow @ 25°C |
| AMORPHOUS SILICATE HYDRATE | |
| Partition coefficient: n-octanol/water | 0,53 |
| METHYL METHACRYLATE | |
| Partition coefficient: n-octanol/water | 1,38 |
| 2-METHOXY-1-METHYLETHYL ACETATE | |
| Partition coefficient: n-octanol/water | 1,2 |
| BUTAN-1-OL | |
| Partition coefficient: n-octanol/water | 1 25 °C |
| BCF | 3,16 |
| 1-METHOXY-2-PROPANOL | |
| Partition coefficient: n-octanol/water | < 1 |
| ETHYL ACETATE | |
| Partition coefficient: n-octanol/water | 0,68 |
| BCF | 30 |
| N-BUTYL ACETATE | |
| Partition coefficient: n-octanol/water | 2,3 |
| BCF | 15,3 |

### 12.4. Mobility in soil

| | |
|---|---|
| OXYDIPROPANOL | |
| Partition coefficient: soil/water | 0,781 @ 20°C |
| 1,4-DIAZABICYCLOOCTANE | |
| Partition coefficient: soil/water | 1,94 @ 20°C |

## SECTION 12. Ecological information ... / >>

METHYL METHACRYLATE
Partition coefficient: soil/water 0,94
BUTAN-1-OL
Partition coefficient: soil/water 0,388
N-BUTYL ACETATE
Partition coefficient: soil/water < 3

### 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

### 12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

### 12.7. Other adverse effects

Information not available

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

### 14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1263

### 14.2. UN proper shipping name

ADR / RID: PAINT
IMDG: PAINT
IATA: PAINT

### 14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



### 14.4. Packing group

ADR / RID, IMDG, IATA: III

### 14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

## SECTION 14. Transport information ... / >>

**14.6. Special precautions for user**

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 30<br>Special provision: 163, 367, 650 | Limited Quantities: 5 L | Tunnel restriction code: (D/E) |
| IMDG: | EMS: F-E, S-E | Limited Quantities: 5 L | |
| IATA: | Cargo:<br>Passengers:<br>Special provision: | Maximum quantity: 220 L<br>Maximum quantity: 60 L<br>A3, A72, A192 | Packaging instructions: 366<br>Packaging instructions: 355 |

**14.7. Maritime transport in bulk according to IMO instruments**

Information not relevant

## SECTION 15. Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EU: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 2** | Flammable liquid, category 2 |
| **Flam. Liq. 3** | Flammable liquid, category 3 |
| **Flam. Sol. 2** | Flammable solid, category 2 |
| **Repr. 2** | Reproductive toxicity, category 2 |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **Skin Irrit. 2** | Skin irritation, category 2 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Skin Sens. 1** | Skin sensitization, category 1 |

## SECTION 16. Other information ... / >>

| | |
|---|---|
| **Skin Sens. 1A** | Skin sensitization, category 1A |
| **Aquatic Acute 1** | Hazardous to the aquatic environment, acute toxicity, category 1 |
| **Aquatic Chronic 1** | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| **H225** | Highly flammable liquid and vapour. |
| **H226** | Flammable liquid and vapour. |
| **H228** | Flammable solid. |
| **H361f** | Suspected of damaging fertility. |
| **H302** | Harmful if swallowed. |
| **H318** | Causes serious eye damage. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H335** | May cause respiratory irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H400** | Very toxic to aquatic life. |
| **H410** | Very toxic to aquatic life with long lasting effects. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)

## SECTION 16. Other information ... / >>

16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
02 / 03 / 08 / 09 / 11 / 12 / 13 / 14.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Code: **VPACB42680**
Product name **FIN. ACR. LOW EMISS. B426 Op.80**

UFI : **F3F8-J0XF-X00V-KGND**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Paint product** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

Name **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Full address **Via Bedeschi, 25**
District and Country **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

e-mail address of the competent person responsible for the Safety Data Sheet **gianluca.cerina@icro.it**

Supplier: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy**

### 1.4. Emergency telephone number

For urgent inquiries refer to **There is no known operational emrgency phone number service in UK**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Flammable liquid, category 3 | H226 | Flammable liquid and vapour. |
| Skin sensitization, category 1A | H317 | May cause an allergic skin reaction. |
| Specific target organ toxicity - single exposure, category 3 | H336 | May cause drowsiness or dizziness. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Warning

## SECTION 2. Hazards identification ... / >>

Hazard statements:

| | |
|---|---|
| **H226** | Flammable liquid and vapour. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

Precautionary statements:

| | |
|---|---|
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P280** | Wear protective gloves/ protective clothing / eye protection / face protection. |
| **P370+P378** | In case of fire: use powder to extinguish. |
| **P261** | Avoid breathing dust / fume / gas / mist / vapours / spray. |

**Contains:**
MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4- PIPERIDYL SEBACATE
N-BUTYL ACETATE
4-MORPHOLINECARBALDEHYDE
METHYL METHACRYLATE

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

| Identification | | x = Conc. % | Classification (EC) 1272/2008 (CLP) |
|---|---|---|---|
| **N-BUTYL ACETATE** | | | |
| *INDEX* | *607-025-00-1* | 50 ≤ x < 60 | **Flam. Liq. 3 H226, STOT SE 3 H336, EUH066** |
| *EC* | *204-658-1* | | |
| *CAS* | *123-86-4* | | |
| *REACH Reg.* | *01-2119485493-XXXX* | | |
| **2-METHOXY-1-METHYLETHYL ACETATE** | | | |
| *INDEX* | *607-195-00-7* | 9 ≤ x < 14 | **Flam. Liq. 3 H226** |
| *EC* | *203-603-9* | | |
| *CAS* | *108-65-6* | | |
| *REACH Reg.* | *01-2119475791-XXXX* | | |
| **ETHYL ACETATE** | | | |
| *INDEX* | *607-022-00-5* | 0,35 ≤ x < 0,4 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *EC* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *REACH Reg.* | *01-2119475103-XXXX* | | |
| **PARAFFIN WAXES AND HYDROCARBON WAXES** | | | |
| *INDEX* | | 0,2 ≤ x < 0,25 | |
| *EC* | *232-315-6* | | |
| *CAS* | *8002-74-2* | | |
| *REACH Reg.* | *01-2119488076-30-XXXX* | | |
| **METHYL METHACRYLATE** | | | |
| *INDEX* | *607-035-00-6* | 0,2 ≤ x < 0,25 | **Flam. Liq. 2 H225, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: D** |
| *EC* | *201-297-1* | | |
| *CAS* | *80-62-6* | | |
| *REACH Reg.* | *01-2119452498-XXXX* | | |
| **BUTAN-1-OL** | | | |
| *INDEX* | *603-004-00-6* | 0,2 ≤ x < 0,25 | **Flam. Liq. 3 H226, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336** |
| *EC* | *200-751-6* | | **ATE Oral: 500 mg/kg** |
| *CAS* | *71-36-3* | | |
| *REACH Reg.* | *01-2119484630-XXXX* | | |

## SECTION 3. Composition/information on ingredients ... / >>

**MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4-PIPERIDYL SEBACATE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0,15 ≤ x < 0,2 | **Repr. 2 H361f, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1** |
| *EC* | *915-687-0* | | |
| *CAS* | *1065336-91-5* | | |
| *REACH Reg.* | *01-2119491304-40-XXXX* | | |

**4-MORPHOLINECARBALDEHYDE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0,15 ≤ x < 0,2 | **Skin Sens. 1 H317** |
| *EC* | *224-518-3* | | |
| *CAS* | *4394-85-8* | | |
| *REACH Reg.* | *01-2119987993-XXXX* | | |

**OXYDIPROPANOL**

| | | | |
|---|---|---|---|
| *INDEX* | | 0,1 ≤ x < 0,15 | |
| *EC* | *246-770-3* | | |
| *CAS* | *25265-71-8* | | |
| *REACH Reg.* | *01-2119456811-XXXX* | | |

**1,4-DIAZABICYCLOOCTANE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0,05 ≤ x < 0,09 | **Flam. Sol. 2 H228, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315 LD50 Oral: 1420 mg/kg** |
| *EC* | *205-999-9* | | |
| *CAS* | *280-57-9* | | |
| *REACH Reg.* | *01-2119980944-XXXX* | | |

**2-HYDROXYETHYL METHACRYLATE**

| | | | |
|---|---|---|---|
| *INDEX* | *607-124-00-X* | 0,02 ≤ x < 0,06 | **Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: D** |
| *EC* | *212-782-2* | | |
| *CAS* | *868-77-9* | | |
| *REACH Reg.* | *01-2119490169-XXXX* | | |

**1-METHOXY-2-PROPANOL**

| | | | |
|---|---|---|---|
| *INDEX* | *603-064-00-3* | 0,02 ≤ x < 0,06 | **Flam. Liq. 3 H226, STOT SE 3 H336** |
| *EC* | *203-539-1* | | |
| *CAS* | *107-98-2* | | |
| *REACH Reg.* | *01-2119457435-XXXX* | | |

**2,2-Dihydroxymethyl butanol**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,03 | **Repr. 2 H361fd** |
| *EC* | *201-074-9* | | |
| *CAS* | *77-99-6* | | |
| *REACH Reg.* | *01-2119486799-XXXX* | | |

**LITHIUM CHLORIDE**

| | | | |
|---|---|---|---|
| *INDEX* | | 0 < x < 0,03 | **Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315** |
| *EC* | *231-212-3* | | **LD50 Oral: 526 mg/kg** |
| *CAS* | *7447-41-8* | | |
| *REACH Reg.* | *01-2119560574-XXXX* | | |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

## SECTION 4. First aid measures ... / >>

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

### 4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, contact a POISON CENTER or doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

METHYL METHACRYLATE
Heat may cause the product to polymerise, which could lead to explosion.

### 5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

2-METHOXY-1-METHYLETHYL ACETATE
Store in an inert atmosphere, sheletered from moisture because it hydrolises easily.

Storage class TRGS 510 (Germany): 3

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory references:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |

## SECTION 8. Exposure controls/personal protection ... / >>

| | | |
|---|---|---|
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| RUS | Россия | ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ" |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | TLV-ACGIH | ACGIH 2025 |

**MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4- PIPERIDYL SEBACATE**

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0022 | mg/l |
| Normal value in marine water | 0,00022 | mg/l |
| Normal value for fresh water sediment | 1,05 | mg/kg |
| Normal value for marine water sediment | 0,11 | mg/kg |
| Normal value for water, intermittent release | 0,009 | mg/l |
| Normal value of STP microorganisms | 1 | mg/l |
| Normal value for the terrestrial compartment | 0,21 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 0,18 mg/kg bw/d | | | | |
| Inhalation | | | | 0,31 mg/m3 | | | | 1,27 mg/m3 |
| Skin | | | | 0,9 mg/kg bw/d | | | | 1,8 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### OXYDIPROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 100 | | 200 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,1 | mg/l |
| Normal value in marine water | 0,01 | mg/l |
| Normal value for fresh water sediment | 0,238 | mg/kg |
| Normal value for marine water sediment | 0,0238 | mg/kg |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 1000 | mg/l |
| Normal value for the food chain (secondary poisoning) | 313 | mg/kg |
| Normal value for the terrestrial compartment | 0,0253 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 24 mg/kg bw/d | | | | |
| Inhalation | | | | 70 mg/m3 | | | | 238 mg/m3 |
| Skin | | | | 51 mg/kg bw/d | | | | 84 mg/kg bw/d |

### 1,4-DIAZABICYCLOOCTANE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,1 | mg/l |
| Normal value in marine water | 0,01 | mg/l |
| Normal value for fresh water sediment | 1,3 | mg/kg |
| Normal value for marine water sediment | 0,13 | mg/kg |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 200 | mg/l |
| Normal value for the terrestrial compartment | 0,19 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 0,5 mg/kg bw/d | | | | |
| Inhalation | | | | 1,46 mg/m3 | | | | 8,24 mg/m3 |
| Skin | | | | 0,50 mg/kg bw/d | | | | 1,4 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### 4-MORPHOLINECARBALDEHYDE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,5 | mg/l |
| Normal value in marine water | 0,05 | mg/l |
| Normal value for fresh water sediment | 1,85 | mg/kg |
| Normal value for marine water sediment | 0,185 | mg/kg |
| Normal value for marine water, intermittent release | 5 | mg/l |
| Normal value of STP microorganisms | 2000 | mg/l |
| Normal value for the terrestrial compartment | 0,0764 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 4,17 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | 13,3 mg/m3 | 8,93 mg/m3 | NPI | NPI | 13,3 mg/m3 | 50,3 mg/m3 |
| Skin | NPI | NPI | MED | 4,17 mg/kg bw/d | NPI | NPI | MED | 11,7 mg/kg bw/d |

### LITHIUM CHLORIDE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10,4 | mg/l |
| Normal value in marine water | 1,04 | mg/l |
| Normal value for fresh water sediment | 49,9 | mg/kg |
| Normal value for marine water sediment | 4,99 | mg/kg |
| Normal value for water, intermittent release | 10,4 | mg/l |
| Normal value of STP microorganisms | 140,2 | mg/l |
| Normal value for the terrestrial compartment | 4,13 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 21,96 mg/kg/d | | 7,32 mg/kg/d | | | | |
| Inhalation | | 30 mg/m3 | | 10 mg/m3 | | 30 mg/m3 | | 10 mg/m3 |
| Skin | | 50 mg/kg/d | | 72,3 mg/kg/d | | 100 mg/kg/d | | 73,2 mg/kg/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### 2,2-Dihydroxymethyl butanol

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| NGV/KGV | SWE | 5 | | | | |

**Predicted no-effect concentration - PNEC**

| | |
|---|---|
| Normal value in fresh water | NPI |
| Normal value in marine water | NPI |
| Normal value for fresh water sediment | NPI |
| Normal value for marine water sediment | NPI |
| Normal value for water, intermittent release | NPI |
| Normal value of STP microorganisms | NPI |
| Normal value for the food chain (secondary poisoning) | NPI |
| Normal value for the terrestrial compartment | NPI |
| Normal value for the atmosphere | NPI |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,340 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 0,580 mg/m3 | NPI | NPI | NPI | 3,3 mg/m3 |
| Skin | NPI | NPI | NPI | 0,340 mg/kg bw/d | NPI | NPI | NPI | 0,940 mg/kg bw/d |

### PARAFFIN WAXES AND HYDROCARBON WAXES

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV-ACGIH | | 2 | | | | |

### 2-HYDROXYETHYL METHACRYLATE

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,482 | mg/l |
| Normal value in marine water | 0,0482 | mg/l |
| Normal value for fresh water sediment | 3,79 | mg/kg |
| Normal value for marine water sediment | 3,79 | mg/kg |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 0,476 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 0,830 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 1,45 mg/m3 | NPI | NPI | NPI | 4,9 mg/m3 |
| Skin | NPI | NPI | NPI | 0,830 mg/kg bw/d | NPI | NPI | NPI | 1,39 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### METHYL METHACRYLATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | | 50 | | 100 | | |
| TLV | CZE | 50 | 12 | 150 | 36 | | |
| AGW | DEU | 210 | 50 | 420 | 100 | | |
| MAK | DEU | 210 | 50 | 420 | 100 | | |
| TLV | DNK | 102 | 25 | | 100 | SKIN | E |
| VLA | ESP | | 50 | | 100 | | |
| TLV | EST | | 50 | | 100 | | |
| VLEP | FRA | 205 | 50 | 410 | 100 | | |
| TLV | GRC | | 50 | | 100 | | |
| AK | HUN | 208 | 50 | 415 | 100 | SKIN | |
| GVI/KGVI | HRV | 50 | | 100 | | SKIN | |
| VLEP | ITA | | 50 | | 100 | | |
| RV | LVA | 10 | | | | | |
| TLV | NOR | 100 | 25 | 400 | 100 | | |
| TGG | NLD | 205 | | 410 | | | |
| VLE | PRT | | 50 | | 100 | | |
| NDS/NDSCh | POL | 100 | | 300 | | | |
| TLV | ROU | 205 | 50 | 410 | 100 | | |
| ПДК | RUS | 10 | | 20 | | | п |
| NGV/KGV | SWE | 200 | 50 | 400 | 100 | | |
| NPEL | SVK | | 50 | | 100 | | |
| MV | SVN | 210 | 50 | 420 | 100 | | |
| ESD | TUR | | 50 | | 100 | | |
| WEL | GBR | 208 | 50 | 416 | 100 | | |
| OEL | EU | | 50 | | 100 | | |
| TLV-ACGIH | | 205 | 50 | 410 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,94 | mg/l |
| Normal value in marine water | 0,094 | mg/l |
| Normal value for fresh water sediment | 10,2 | mg/kg |
| Normal value for marine water sediment | 10,2 | mg/kg |
| Normal value for water, intermittent release | 0,69 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the terrestrial compartment | 1,48 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 8,2 mg/kg bw/d | | | | |
| Inhalation | 208 mg/m3 | NPI | 104 mg/m3 | 74,3 mg/m3 | 416 mg/m3 | NPI | 208 mg/m3 | 384,4 mg/m3 |
| Skin | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 8,2 mg/kg/d | 1,5 mg/cm2 | NPI | 1,5 mg/cm2 | 13,67 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

### 2-METHOXY-1-METHYLETHYL ACETATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 275 | 50 | 550 | 100 | SKIN | |
| TLV | CZE | 270 | 49,14 | 550 | 100,1 | SKIN | |
| AGW | DEU | 270 | 50 | 270 | 50 | | |
| MAK | DEU | 270 | 50 | 270 | 50 | | |
| TLV | DNK | 275 | 50 | 550 | 100 | SKIN | E |
| VLA | ESP | 275 | 50 | 550 | 100 | SKIN | |
| TLV | EST | 275 | 50 | 550 | 100 | SKIN | |
| VLEP | FRA | 275 | 50 | 550 | 100 | SKIN | |
| TLV | GRC | 275 | 50 | 550 | 100 | | |
| AK | HUN | 275 | 50 | 550 | 100 | | |
| GVI/KGVI | HRV | 275 | 50 | 550 | 100 | SKIN | |
| VLEP | ITA | 275 | 50 | 550 | 100 | SKIN | |
| RV | LVA | 275 | 50 | 550 | 100 | SKIN | |
| TLV | NOR | 270 | 50 | | | SKIN | |
| TGG | NLD | 550 | | | | | |
| VLE | PRT | 275 | 50 | 550 | 100 | SKIN | |
| NDS/NDSCh | POL | 260 | | 520 | | SKIN | |
| TLV | ROU | 275 | 50 | 550 | 100 | SKIN | |
| ПДК | RUS | | | 10 | | | п |
| NGV/KGV | SWE | 275 | 50 | 550 | 100 | SKIN | |
| NPEL | SVK | 275 | 50 | 550 | 100 | SKIN | |
| MV | SVN | 275 | 50 | 550 | 100 | SKIN | |
| ESD | TUR | 275 | 50 | 550 | 100 | SKIN | |
| WEL | GBR | 274 | 50 | 548 | 100 | SKIN | |
| OEL | EU | 275 | 50 | 550 | 100 | SKIN | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,635 | mg/l |
| Normal value in marine water | 0,0635 | mg/l |
| Normal value for fresh water sediment | 3,29 | mg/kg |
| Normal value for marine water sediment | 0,329 | mg/kg |
| Normal value for marine water, intermittent release | 6,35 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 0,29 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 500 mg/kg bw/d | | 36 mg/kg | | | | |
| Inhalation | NPI | NPI | 33 mg/m3 | 33 mg/m3 | 550 mg/m3 | NPI | NPI | 275 mg/m3 |
| Skin | NPI | NPI | NPI | 320 mg/kg | NPI | NPI | NPI | 796 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

**BUTAN-1-OL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 100 | | 150 | | |
| TLV | CZE | 300 | 97,5 | 600 | 195 | |
| AGW | DEU | 310 | 100 | 310 | 100 | |
| MAK | DEU | 310 | 100 | 310 | 100 | |
| TLV | DNK | | | 150 (C) | 50 (C) | SKIN |
| VLA | ESP | 61 | 20 | 154 | 50 | |
| TLV | EST | 45 | 15 | 90 (C) | 30 (C) | SKIN |
| VLEP | FRA | | | 150 | 50 | |
| TLV | GRC | 300 | 100 | 300 | 100 | |
| AK | HUN | 45 | | 90 | | SKIN |
| GVI/KGVI | HRV | | | 154 | 50 | SKIN |
| RV | LVA | 10 | | | | |
| TLV | NOR | 75 | 25 | | | SKIN |
| TGG | NLD | | | 45 | | |
| NDS/NDSCh | POL | 50 | | 150 | | SKIN |
| TLV | ROU | 100 | 33 | 200 | 66 | |
| ПДК | RUS | 10 | | 30 | | п |
| NGV/KGV | SWE | 45 | 15 | 90 | 30 | SKIN |
| NPEL | SVK | 310 | 100 | | | |
| MV | SVN | 310 | 100 | 310 | 100 | |
| ESD | TUR | 300 | 100 | | | |
| WEL | GBR | | | 154 | 50 | SKIN |
| TLV-ACGIH | | 61 | 20 | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,082 | mg/l |
| Normal value in marine water | 0,0082 | mg/l |
| Normal value for fresh water sediment | 0,324 | mg/kg |
| Normal value for marine water sediment | 0,032 | mg/kg |
| Normal value for water, intermittent release | 2,25 | mg/l |
| Normal value of STP microorganisms | 2476 | mg/l |
| Normal value for the terrestrial compartment | 0,017 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 1,562 mg/kg bw/d | | | | |
| Inhalation | | NPI | 155 mg/m3 | 55,357 mg/m3 | | NPI | 310 mg/m3 | |
| Skin | | NPI | | 3,125 mg/kg bw/d | | NPI | | |

## SECTION 8. Exposure controls/personal protection ... / >>

### 1-METHOXY-2-PROPANOL

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations | |
|---|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | | |
| TLV | BGR | 375 | 100 | 568 | 150 | SKIN | |
| TLV | CZE | 270 | 72,09 | 550 | 146,85 | SKIN | |
| AGW | DEU | 370 | 100 | 740 | 200 | | |
| MAK | DEU | 370 | 100 | 740 | 200 | | |
| TLV | DNK | 185 | 50 | 568 | 150 | SKIN | E |
| VLA | ESP | 375 | 100 | 568 | 150 | SKIN | |
| TLV | EST | 375 | 100 | 568 | 150 | SKIN | |
| VLEP | FRA | 188 | 50 | 375 | 100 | SKIN | |
| TLV | GRC | 360 | 100 | 1080 | 300 | | |
| AK | HUN | 375 | 100 | 568 | 150 | SKIN | |
| GVI/KGVI | HRV | 375 | 100 | 568 | 150 | | |
| VLEP | ITA | 375 | 100 | 568 | 150 | SKIN | |
| RV | LVA | 375 | 100 | 568 | 150 | SKIN | |
| TLV | NOR | 180 | 50 | | | SKIN | |
| TGG | NLD | 375 | | 563 | | SKIN | |
| VLE | PRT | 375 | 100 | 568 | 150 | | |
| NDS/NDSCh | POL | 180 | | 360 | | SKIN | |
| TLV | ROU | 375 | 100 | 568 | 150 | SKIN | |
| NGV/KGV | SWE | 190 | 50 | 568 | 150 | SKIN | |
| NPEL | SVK | 375 | 100 | 568 | 150 | SKIN | |
| MV | SVN | 375 | 100 | 568 | 150 | SKIN | |
| ESD | TUR | 375 | 100 | 568 | 150 | SKIN | |
| WEL | GBR | 375 | 100 | 560 | 150 | SKIN | |
| OEL | EU | 375 | 100 | 568 | 150 | SKIN | |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 10 | mg/l |
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 52,3 | mg/kg |
| Normal value for marine water sediment | 5,2 | mg/kg |
| Normal value for water, intermittent release | 100 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 4,59 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | VND | 33 mg/kg bw/d | | | | |
| Inhalation | NPI | NPI | NPI | 43,9 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | NPI | 369 mg/m3 |
| Skin | NPI | NPI | NPI | 78 mg/kg | NPI | NPI | NPI | 183 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

### ETHYL ACETATE

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | | 1468 | | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| ПДК | RUS | 50 | | 200 | | п |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| TLV-ACGIH | | 1441 | 400 | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,24 | mg/l |
| Normal value in marine water | 0,024 | mg/l |
| Normal value for fresh water sediment | 1,15 | mg/kg |
| Normal value for marine water sediment | 0,115 | mg/kg |
| Normal value for water, intermittent release | 1,65 | mg/l |
| Normal value of STP microorganisms | 650 | mg/l |
| Normal value for the food chain (secondary poisoning) | 200 | mg/kg |
| Normal value for the terrestrial compartment | 0,148 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalation | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Skin | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

## SECTION 8. Exposure controls/personal protection ... / >>

**N-BUTYL ACETATE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 710 | | 950 | | |
| TLV | CZE | 241 | | 723 | | |
| AGW | DEU | 300 | 62 | 600 | 124 | |
| MAK | DEU | 480 | 100 | 960 | 200 | |
| TLV | DNK | 241 | 50 | 723 | 150 | E |
| VLA | ESP | 241 | 50 | 723 | 150 | |
| TLV | EST | 500 | 100 | 700 | 150 | |
| VLEP | FRA | 241 | 50 | 723 | 150 | |
| TLV | GRC | 710 | 150 | 950 | 200 | |
| AK | HUN | 241 | 50 | 723 | 150 | |
| GVI/KGVI | HRV | 241 | 50 | 723 | 150 | |
| VLEP | ITA | 241 | 50 | 723 | 150 | |
| RV | LVA | 200 | | | | |
| TLV | NOR | | 75 | | | |
| TGG | NLD | 150 | | | | |
| VLE | PRT | 241 | 50 | 723 | 150 | |
| NDS/NDSCh | POL | 240 | | 720 | | |
| TLV | ROU | 241 | 50 | 723 | 150 | |
| ПДК | RUS | | | 0,1 | | п |
| NGV/KGV | SWE | 241 | 50 | 723 (C) | 150 (C) | |
| NPEL | SVK | 241 | 50 | 723 | 150 | |
| MV | SVN | 300 | 62 | 600 | 124 | |
| ESD | TUR | 241 | 50 | 723 | 150 | |
| WEL | GBR | 724 | 150 | 966 | 200 | |
| OEL | EU | 241 | 50 | 723 | 150 | |
| TLV-ACGIH | | | 50 | | 150 | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,18 | mg/l |
| Normal value in marine water | 0,018 | mg/l |
| Normal value for fresh water sediment | 0,981 | mg/kg |
| Normal value for marine water sediment | 0,0981 | mg/kg |
| Normal value for marine water, intermittent release | 0,36 | mg/l |
| Normal value of STP microorganisms | 35,6 | mg/l |
| Normal value for the terrestrial compartment | 0,0903 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 2 mg/kg/d | | 2 mg/kg/d | | | | |
| Inhalation | 300 mg/m3 | 300 mg/m3 | 35,7 mg/m3 | 35,7 mg/m3 | 600 mg/m3 | 600 mg/m3 | 300 mg/m3 | 300 mg/m3 |
| Skin | NPI | 6 mg/kg/d | NPI | 6 mg/kg/d | NPI | 11 mg/kg/d | NPI | 11 mg/kg/d |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION

## SECTION 8. Exposure controls/personal protection ... / >>

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | colourless | | |
| Odour | typical of solvent | | |
| Melting point / freezing point | -77 | °C | |
| Initial boiling point | 126 | °C | |
| Flammability | not applicable | | |
| Lower explosive limit | 1,7 | % (v/v) | Temperature: 20 °C |
| Upper explosive limit | 7,6 | % (v/v) | Temperature: 20 °C |
| Flash point | 30 | °C | |
| Auto-ignition temperature | 421 | °C | |
| Decomposition temperature | not applicable | | |
| pH | not applicable | | |
| Kinematic viscosity | not available | | |
| Dynamic viscosity | 80.000 cPs | | |
| Solubility | soluble in organic solvents | | |
| Partition coefficient: n-octanol/water | not applicable | | |
| Vapour pressure | not determined | | |
| Density and/or relative density | 0,967 | g/cm3 | Temperature: 20 °C |
| Relative vapour density | 3,6 | | |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

| | | | | |
|---|---|---|---|---|
| VOC (Directive 2010/75/EU) | 68,40 % | - | 661,41 | g/litre |
| VOC (volatile carbon) | 41,54 % | - | 401,66 | g/litre |

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

2-METHOXY-1-METHYLETHYL ACETATE
Stable in normal conditions of use and storage.
With the air it may slowly develop peroxides that explode with an increase in temperature.

## SECTION 10. Stability and reactivity ... / >>

BUTAN-1-OL
Attacks various types of plastic materials.
1-METHOXY-2-PROPANOL
Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

ETHYL ACETATE
Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

N-BUTYL ACETATE
Decomposes on contact with: water.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

METHYL METHACRYLATE
May polymerise on contact with: ammonia,organic peroxides,persulphates.Risk of explosion on contact with: dibenzoyl peroxide,diterbutyl peroxide,propionaldehyde.May react dangerously with: strong oxidising agents.Forms explosive mixtures with: air.
2-METHOXY-1-METHYLETHYL ACETATE
May react violently with: oxidising substances,strong acids,alkaline metals.
BUTAN-1-OL
Reacts violently developing heat on contact with: aluminium,strong oxidising agents,strong reducing agents,hydrochloric acid.Forms explosive mixtures with: air.
1-METHOXY-2-PROPANOL
May react dangerously with: strong oxidising agents,strong acids.
ETHYL ACETATE
Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.
N-BUTYL ACETATE
Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

METHYL METHACRYLATE
Avoid exposure to: heat,UV rays.Avoid contact with: oxidising substances,reducing substances,acids,bases.
BUTAN-1-OL
Avoid exposure to: sources of heat,naked flames.
1-METHOXY-2-PROPANOL
Avoid exposure to: air.
ETHYL ACETATE
Avoid exposure to: light,sources of heat,naked flames.
N-BUTYL ACETATE
Avoid exposure to: moisture,sources of heat,naked flames.

**10.5. Incompatible materials**

2-METHOXY-1-METHYLETHYL ACETATE
Incompatible with: oxidising substances,strong acids,alkaline metals.
1-METHOXY-2-PROPANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.
ETHYL ACETATE
Incompatible with: acids,bases,strong oxidants,chlorosulphuric acid.
N-BUTYL ACETATE
Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

METHYL METHACRYLATE
When heated to decomposition releases: harsh fumes,zinc alloys.

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

2-METHOXY-1-METHYLETHYL ACETATE
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

2-METHOXY-1-METHYLETHYL ACETATE
WORKERS: inhalation; contact with the skin.

1-METHOXY-2-PROPANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE
WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

2-METHOXY-1-METHYLETHYL ACETATE
Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

1-METHOXY-2-PROPANOL
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

N-BUTYL ACETATE
In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

N-BUTYL ACETATE
A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

| | |
|---|---|
| ATE (Inhalation) of the mixture: | Not classified (no significant component) |
| ATE (Oral) of the mixture: | Not classified (no significant component) |
| ATE (Dermal) of the mixture: | Not classified (no significant component) |

MASS REACTION OF BIS (1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL) SEBACATE AND METHYL 1,2,2,6,6-PENTAMETHYL - 4-PIPERIDYL SEBACATE

| | |
|---|---|
| LD50 (Dermal): | > 3000 mg/kg Rat |
| LD50 (Oral): | > 3000 mg/kg Rat |

## SECTION 11. Toxicological information ... / >>

OXYDIPROPANOL
LD50 (Dermal): > 5010 mg/kg Rabbit
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalation vapours): > 2,34 mg/l/4h Rat

1,4-DIAZABICYCLOOCTANE
LD50 (Dermal): > 2000 mg/kg Rabbit
LD50 (Oral): 1420 mg/kg Rat

4-MORPHOLINECARBALDEHYDE
LD50 (Dermal): > 18400 mg/kg Rat
LD50 (Oral): 7314 mg/kg Rat
LC50 (Inhalation vapours): > 5,319 mg/l/4h Rat

LITHIUM CHLORIDE
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): 526 mg/kg Rat
LC50 (Inhalation vapours): > 5,57 mg/l/4h Rat

2,2-Dihydroxymethyl butanol
LD50 (Oral): > 14700 mg/kg Rat
LC50 (Inhalation mists/powders): > 0,85 mg/l/4h

PARAFFIN WAXES AND HYDROCARBON WAXES
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 5000 mg/kg Rat Female

2-HYDROXYETHYL METHACRYLATE
LD50 (Dermal): 5000 mg/kg Rabbit
LD50 (Oral): 2000 mg/kg Rat

METHYL METHACRYLATE
LD50 (Dermal): 5000 mg/kg rabbit
LD50 (Oral): 7900 mg/kg rat
LC50 (Inhalation vapours): 29,8 mg/l/4h rat

2-METHOXY-1-METHYLETHYL ACETATE
LD50 (Dermal): 2000 mg/kg Rat
LD50 (Oral): > 5155 mg/kg Rat

BUTAN-1-OL
LD50 (Dermal): 3430 mg/kg Rabbit
LD50 (Oral): 2292 mg/kg Rat
LC50 (Inhalation vapours): > 17,76 ppm/4h Rat

1-METHOXY-2-PROPANOL
LD50 (Dermal): > 2000 mg/kg Rat
LD50 (Oral): > 4016 mg/kg Rat
LC50 (Inhalation vapours): > 6000 ppm/6h Mouse

ETHYL ACETATE
LD50 (Dermal): > 20000 mg/kg rabbit
LD50 (Oral): 5620 mg/kg rat
LC50 (Inhalation mists/powders): 11,72 mg/l/4h rat

N-BUTYL ACETATE
LD50 (Dermal): > 14000 mg/kg bw/d Rabbit
LD50 (Oral): 10736 mg/kg Rat
LC50 (Inhalation vapours): > 21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

## SECTION 11. Toxicological information ... / >>

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

**12.1. Toxicity**

| | |
|---|---|
| OXYDIPROPANOL | |
| EC50 - for Algae / Aquatic Plants | > 100 mg/l/72h Desmodesmus subspicatus |
| 1,4-DIAZABICYCLOOCTANE | |
| EC50 - for Algae / Aquatic Plants | 110 mg/l/72h |
| Chronic NOEC for Algae / Aquatic Plants | 56 mg/l |
| 4-MORPHOLINECARBALDEHYDE | |
| LC50 - for Fish | 500 mg/l/96h |
| EC50 - for Crustacea | 500 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 17440 mg/l/72h |
| EC10 for Algae / Aquatic Plants | 10760 mg/l/72h |
| Chronic NOEC for Crustacea | 38 mg/l/21d |
| LITHIUM CHLORIDE | |
| LC50 - for Fish | 158 mg/l/96h oncorhynchus mykiss |
| EC50 - for Crustacea | > 100 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 400 mg/l/72h |
| 2,2-Dihydroxymethyl butanol | |
| LC50 - for Fish | > 1000 mg/l/96h |
| EC50 - for Crustacea | 13000 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 1000 mg/l/72h Pseudokirchneriella subcapitata |
| Chronic NOEC for Crustacea | > 1000 mg/l Daphnia magna |
| PARAFFIN WAXES AND HYDROCARBON WAXES | |
| LC50 - for Fish | > 1000 mg/l/96h Onchorynchus mykiss |
| EC50 - for Crustacea | > 10000 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 1000 mg/l/72h Scenedesmus subspicatus |

## SECTION 12. Ecological information ... / >>

| | |
|---|---|
| 2-HYDROXYETHYL METHACRYLATE | |
| LC50 - for Fish | 100 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 380 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 345 mg/l/72h |
| Chronic NOEC for Crustacea | 24,1 mg/l/21d |
| Chronic NOEC for Algae / Aquatic Plants | 160 mg/l/72h |
| METHYL METHACRYLATE | |
| LC50 - for Fish | > 79 mg/l/96h oncorhynchus mykiss |
| EC50 - for Crustacea | 69 mg/l/48h daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 110 mg/l/72h Pseudokirchneriella subcapitata |
| Chronic NOEC for Crustacea | 37 mg/l Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants | 49 mg/l Pseudokirchneriella subcapitata |
| 2-METHOXY-1-METHYLETHYL ACETATE | |
| LC50 - for Fish | > 100 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | > 500 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 1000 mg/l/72h selenastrum capricornutum |
| Chronic NOEC for Fish | 47,5 mg/l/14d Oryzias latipes |
| Chronic NOEC for Crustacea | 100 mg/l/21d Daphnia |
| Chronic NOEC for Algae / Aquatic Plants | 1000 mg/l/72h |
| BUTAN-1-OL | |
| LC50 - for Fish | 1376 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 1328 mg/l/48h Daphnia magna |
| 1-METHOXY-2-PROPANOL | |
| LC50 - for Fish | < 20800 mg/l/96h pimephales promelas |
| EC50 - for Crustacea | > 21100 mg/l/48h Daphnia |
| Chronic NOEC for Fish | < 4640 mg/l/96h |
| Chronic NOEC for Algae / Aquatic Plants | > 1000 mg/l/7d selenastrum capricornutum |
| ETHYL ACETATE | |
| LC50 - for Fish | 230 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 165 mg/l/48h Daphnia cucullata |
| EC10 for Algae / Aquatic Plants | 2,3 mg/l/48h |
| Chronic NOEC for Fish | 9,65 mg/l/32d pimephales promelas |
| Chronic NOEC for Crustacea | 2,4 mg/l/21d Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants | 100 mg/l/72h Scenedesmus subspicatus |
| N-BUTYL ACETATE | |
| LC50 - for Fish | 18 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 44 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | 675 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea | 23 mg/l/21d Daphnia magna |

### 12.2. Persistence and degradability

| | |
|---|---|
| 1,4-DIAZABICYCLOOCTANE | |
| Solubility in water | 610000 mg/l @ 25°C |
| 4-MORPHOLINECARBALDEHYDE | |
| Solubility in water | 1000 g/l @ 20°C |
| LITHIUM CHLORIDE | |
| Solubility in water | 569 g/l @ 20°C |
| 2,2-Dihydroxymethyl butanol | |
| Solubility in water | 100 g/l @ 25 °C |
| Inherently degradable | |
| 2-HYDROXYETHYL METHACRYLATE | |
| Solubility in water | 100 g/l @ 25°C |
| METHYL METHACRYLATE | |
| Solubility in water | 15300 mg/l |
| Rapidly degradable | |

## SECTION 12. Ecological information ... / >>

2-METHOXY-1-METHYLETHYL ACETATE
Solubility in water 198 g/l 20°C
Rapidly degradable

BUTAN-1-OL
Solubility in water 66 g/l
Rapidly degradable

1-METHOXY-2-PROPANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

ETHYL ACETATE
Solubility in water > 10000 mg/l
Rapidly degradable

N-BUTYL ACETATE
Solubility in water 5300 mg/l
Rapidly degradable

### 12.3. Bioaccumulative potential

OXYDIPROPANOL
Partition coefficient: n-octanol/water -0,46 @ 20°C

1,4-DIAZABICYCLOOCTANE
Partition coefficient: n-octanol/water -0,49 @ 20°C
BCF 13

4-MORPHOLINECARBALDEHYDE
Partition coefficient: n-octanol/water -1,2 @ 23°C
BCF 1,9 l/kg

LITHIUM CHLORIDE
Partition coefficient: n-octanol/water -1

2,2-Dihydroxymethyl butanol
Partition coefficient: n-octanol/water -0,47 @ 26 °C

2-HYDROXYETHYL METHACRYLATE
Partition coefficient: n-octanol/water 0,42 Log Kow @ 25°C

METHYL METHACRYLATE
Partition coefficient: n-octanol/water 1,38

2-METHOXY-1-METHYLETHYL ACETATE
Partition coefficient: n-octanol/water 1,2

BUTAN-1-OL
Partition coefficient: n-octanol/water 1 25 °C
BCF 3,16

1-METHOXY-2-PROPANOL
Partition coefficient: n-octanol/water < 1

ETHYL ACETATE
Partition coefficient: n-octanol/water 0,68
BCF 30

N-BUTYL ACETATE
Partition coefficient: n-octanol/water 2,3
BCF 15,3

### 12.4. Mobility in soil

## SECTION 12. Ecological information ... / >>

| | |
|---|---|
| OXYDIPROPANOL | |
| Partition coefficient: soil/water | 0,781 @ 20°C |
| 1,4-DIAZABICYCLOOCTANE | |
| Partition coefficient: soil/water | 1,94 @ 20°C |
| 2,2-Dihydroxymethyl butanol | |
| Partition coefficient: soil/water | 0,176 @ 20°C |
| METHYL METHACRYLATE | |
| Partition coefficient: soil/water | 0,94 |
| BUTAN-1-OL | |
| Partition coefficient: soil/water | 0,388 |
| N-BUTYL ACETATE | |
| Partition coefficient: soil/water | < 3 |

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. Other adverse effects**

Information not available

## SECTION 13. Disposal considerations

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

**14.1. UN number or ID number**

ADR / RID, IMDG, IATA: UN 1263

**14.2. UN proper shipping name**

| | |
|---|---|
| ADR / RID: | PAINT |
| IMDG: | PAINT |
| IATA: | PAINT |

**14.3. Transport hazard class(es)**

| | | |
|---|---|---|
| ADR / RID: | Class: 3 | Label: 3 |
| IMDG: | Class: 3 | Label: 3 |
| IATA: | Class: 3 | Label: 3 |



**14.4. Packing group**

ADR / RID, IMDG, IATA: III

## SECTION 14. Transport information ... / >>

### 14.5. Environmental hazards

| | |
|---|---|
| ADR / RID: | NO |
| IMDG: | not marine pollutant |
| IATA: | NO |

### 14.6. Special precautions for user

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 30 | Limited Quantities: 5 lt | Tunnel restriction code: (D/E) |
| | Special provision: 163, 367, 650 | | |
| IMDG: | EMS: F-E, S-E | Limited Quantities: 5 lt | |
| IATA: | Cargo: | Maximum quantity: 220 L | Packaging instructions: 366 |
| | Passengers: | Maximum quantity: 60 L | Packaging instructions: 355 |
| | Special provision: | A3, A72, A192 | |

### 14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

## SECTION 15. Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3 - 40

Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 2: Hazard to waters

### 15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 2** | Flammable liquid, category 2 |
| **Flam. Liq. 3** | Flammable liquid, category 3 |
| **Flam. Sol. 2** | Flammable solid, category 2 |
| **Repr. 2** | Reproductive toxicity, category 2 |

## SECTION 16. Other information ... / >>

| | |
|---|---|
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **Skin Irrit. 2** | Skin irritation, category 2 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **Skin Sens. 1A** | Skin sensitization, category 1A |
| **Aquatic Acute 1** | Hazardous to the aquatic environment, acute toxicity, category 1 |
| **Aquatic Chronic 1** | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| **H225** | Highly flammable liquid and vapour. |
| **H226** | Flammable liquid and vapour. |
| **H228** | Flammable solid. |
| **H361f** | Suspected of damaging fertility. |
| **H361fd** | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| **H302** | Harmful if swallowed. |
| **H318** | Causes serious eye damage. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H335** | May cause respiratory irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H400** | Very toxic to aquatic life. |
| **H410** | Very toxic to aquatic life with long lasting effects. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament

## SECTION 16. Other information ... / >>

9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
02 / 03 / 08 / 09 / 11 / 12 / 13 / 14.

# Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Code: **XXADB690**
Product name **ADDITIVO PER STABILIZZAZIONE**

UFI : **EUX2-W078-K00H-UJ3F**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| **Additive for paint products** | ✓ | - | - |
| **Auxiliary materials for paint or varnish for the production of automotive interior parts** | ✓ | - | - |

### 1.3. Details of the supplier of the safety data sheet

Name **ICRO COATINGS S.P.A. CON SOCIO UNICO**
Full address **Via Bedeschi, 25**
District and Country **24040 Chignolo D'Isola (BG)**
**Italia**
**Tel. +39 035 999711**
**Fax +39 035 999712**

e-mail address of the competent person responsible for the Safety Data Sheet **gianluca.cerina@icro.it**

Supplier: **ICRO COATINGS S.p.A. con Socio Unico - Via Bedeschi 25 - 24040 Chignolo d'Isola (BG) - Italy**

### 1.4. Emergency telephone number

For urgent inquiries refer to **There is no known operational emrgency phone number service in UK**

## SECTION 2. Hazards identification

### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Flammable liquid, category 2 | H225 | Highly flammable liquid and vapour. |
| Eye irritation, category 2 | H319 | Causes serious eye irritation. |
| Specific target organ toxicity - single exposure, category 3 | H336 | May cause drowsiness or dizziness. |

### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

## SECTION 2. Hazards identification ... / >>

Hazard statements:

| | |
|---|---|
| **H225** | Highly flammable liquid and vapour. |
| **H319** | Causes serious eye irritation. |
| **H336** | May cause drowsiness or dizziness. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

Precautionary statements:

| | |
|---|---|
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P280** | Wear protective gloves/ protective clothing / eye protection / face protection. |
| **P370+P378** | In case of fire: use powder to extinguish. |
| **P261** | Avoid breathing dust / fume / gas / mist / vapours / spray. |

**Contains:** ETHYL ACETATE

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

| Identification | | **x = Conc. %** | **Classification (EC) 1272/2008 (CLP)** |
|---|---|---|---|
| **ETHYL ACETATE** | | | |
| *INDEX* | *607-022-00-5* | 80 ≤ x < 100 | **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066** |
| *EC* | *205-500-4* | | |
| *CAS* | *141-78-6* | | |
| *REACH Reg.* | *01-2119475103-XXXX* | | |
| **BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, C7-9-BRANCHED ALKYL ESTERS** | | | |
| *INDEX* | *607-530-00-7* | 9 ≤ x < 14 | **Aquatic Chronic 4 H413** |
| *EC* | *406-040-9* | | |
| *CAS* | *125643-61-0* | | |
| *REACH Reg.* | *01-0000015551-76-XXXX* | | |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

**SECTION 4. First aid measures** ... / >>

**4.2. Most important symptoms and effects, both acute and delayed**

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

**4.3. Indication of any immediate medical attention and special treatment needed**

If you feel unwell, contact a POISON CENTER or doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

## SECTION 5. Firefighting measures

**5.1. Extinguishing media**

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

**5.2. Special hazards arising from the substance or mixture**

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

**5.3. Advice for firefighters**

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

**6.3. Methods and material for containment and cleaning up**

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany): 3

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory references:

| | | |
|---|---|---|
| BGR | България | НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.) |
| CZE | Česká Republika | NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci |
| DEU | Deutschland | Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58 |
| DNK | Danmark | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2023 |
| EST | Eesti | Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14] |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021 |
| GRC | Ελλάδα | Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''» |
| HUN | Magyarország | Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről |
| HRV | Hrvatska | Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| LVA | Latvija | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §) |
| NOR | Norge | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| NLD | Nederland | Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit |
| PRT | Portugal | Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006 |
| SWE | Sverige | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1) |

## SECTION 8. Exposure controls/personal protection ... / >>

| | | |
|---|---|---|
| SVK | Slovensko | NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov |
| SVN | Slovenija | Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) |
| TUR | Türkiye | Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345. |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | TLV-ACGIH | ACGIH 2025 |

**BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, C7-9-BRANCHED ALKYL ESTERS**

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,0043 | mg/l |
| Normal value in marine water | 0,00000 3 | mg/l |
| Normal value for fresh water sediment | 0,37 | mg/kg |
| Normal value for marine water sediment | 0,037 | mg/kg |
| Normal value for water, intermittent release | 0,018 | mg/l |
| Normal value of STP microorganisms | 10 | mg/l |
| Normal value for the food chain (secondary poisoning) | 0,033 | mg/kg |
| Normal value for the terrestrial compartment | 0,05 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | 50 mg/kg bw/d | | 0,160 mg/kg/bw | | | | |
| Inhalation | NPI | 875 mg/m3 | NPI | 0,740 mg/m3 | NPI | 1750 mg/m3 | NPI | 2,33 mg/m3 |
| Skin | 8,33 mg/cm2 | 50 mg/kg bw/d | NPI | 0,300 mg/kg/bw | 1 mg/cm2 | 20 mg/kg bw/d | 0,006 mg/cm2 | 0,220 mg/kg bw/d |

## SECTION 8. Exposure controls/personal protection ... / >>

**ETHYL ACETATE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | BGR | 734 | 200 | 1468 | 400 | |
| TLV | CZE | 700 | 191,1 | 900 | 245,7 | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| MAK | DEU | 750 | 200 | 1500 | 400 | |
| TLV | DNK | 540 | 150 | 1468 | 400 | E |
| VLA | ESP | 734 | 200 | 1468 | 400 | |
| TLV | EST | 500 | 150 | 1100 | 300 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| TLV | GRC | 734 | 200 | 1468 | 400 | |
| AK | HUN | 734 | 200 | 1468 | 400 | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 | |
| VLEP | ITA | 734 | 200 | 1468 | 400 | |
| RV | LVA | 200 | 54 | 1468 | 400 | |
| TLV | NOR | 734 | 200 | | | |
| TGG | NLD | 734 | | 1468 | | |
| VLE | PRT | 734 | 200 | 1468 | 400 | |
| NDS/NDSCh | POL | 734 | | 1468 | | |
| TLV | ROU | 734 | 200 | 1468 | 400 | |
| NGV/KGV | SWE | 550 | 150 | 1100 | 300 | |
| NPEL | SVK | 734 | 200 | 1468 | 400 | |
| MV | SVN | 734 | 200 | 1468 | 400 | |
| ESD | TUR | 734 | 200 | 1468 | 400 | |
| WEL | GBR | 734 | 200 | 1468 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |
| TLV-ACGIH | | 1441 | 400 | | | |

**Predicted no-effect concentration - PNEC**

| | | |
|---|---|---|
| Normal value in fresh water | 0,24 | mg/l |
| Normal value in marine water | 0,024 | mg/l |
| Normal value for fresh water sediment | 1,15 | mg/kg |
| Normal value for marine water sediment | 0,115 | mg/kg |
| Normal value for water, intermittent release | 1,65 | mg/l |
| Normal value of STP microorganisms | 650 | mg/l |
| Normal value for the food chain (secondary poisoning) | 200 | mg/kg |
| Normal value for the terrestrial compartment | 0,148 | mg/kg |
| Normal value for the atmosphere | NPI | |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | NPI | | 4,5 mg/kg | | | | |
| Inhalation | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 1468 mg/m3 | 734 mg/m3 |
| Skin | NPI | NPI | | 37 mg/kg | | NPI | NPI | 63 mg/kg |

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION

## SECTION 8. Exposure controls/personal protection ... / >>

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties | Value | | Information |
|---|---|---|---|
| Appearance | liquid | | |
| Colour | colourless | | |
| Odour | typical of solvent | | |
| Odour threshold | not applicable | | |
| Melting point / freezing point | not applicable | | |
| Initial boiling point | 77 | °C | |
| Boiling range | 77-80 | °C | |
| Flammability | not applicable | | |
| Lower explosive limit | 2 | % (v/v) | Temperature: 20 °C |
| Upper explosive limit | 11,5 | % (v/v) | Temperature: 20 °C |
| Flash point | 4 | °C | |
| Auto-ignition temperature | 426 | °C | |
| Decomposition temperature | not applicable | | |
| pH | not applicable | | |
| Kinematic viscosity | not applicable | | |
| Solubility | soluble in organic solvents | | |
| Partition coefficient: n-octanol/water | not applicable | | |
| Vapour pressure | not determined | | |
| Density and/or relative density | 0,91 | | |
| Relative vapour density | 3,04 | | |
| Particle characteristics | not applicable | | |

### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

| | | | |
|---|---|---|---|
| Evaporation rate | not determined | | |
| VOC (Directive 2010/75/EU) | 90,00 % | - 819,00 | g/litre |
| VOC (volatile carbon) | 49,03 % | - 446,17 | g/litre |
| Explosive properties | not applicable | | |
| Oxidising properties | not applicable | | |

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

## SECTION 10. Stability and reactivity ... / >>

ETHYL ACETATE
Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

ETHYL ACETATE
Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

ETHYL ACETATE
Avoid exposure to: light,sources of heat,naked flames.

**10.5. Incompatible materials**

ETHYL ACETATE
Incompatible with: acids,bases,strong oxidants,chlorosulphuric acid.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

| | |
|---|---|
| ATE (Inhalation) of the mixture: | Not classified (no significant component) |
| ATE (Oral) of the mixture: | Not classified (no significant component) |
| ATE (Dermal) of the mixture: | Not classified (no significant component) |

BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, C7-9-BRANCHED ALKYL ESTERS

| | |
|---|---|
| LD50 (Dermal): | > 2000 mg/kg Rat |
| LD50 (Oral): | > 2000 mg/kg Rat |

ETHYL ACETATE

| | |
|---|---|
| LD50 (Dermal): | > 20000 mg/kg rabbit |
| LD50 (Oral): | 5620 mg/kg rat |
| LC50 (Inhalation mists/powders): | 11,72 mg/l/4h rat |

## SECTION 11. Toxicological information ... / >>

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

**12.1. Toxicity**

BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, C7-9-BRANCHED ALKYL ESTERS

| | |
|---|---|
| LC50 - for Fish | > 74 mg/l/96h Brachydanio rerio |
| EC50 - for Crustacea | > 100 mg/l/48h Daphnia magna |
| EC50 - for Algae / Aquatic Plants | > 3 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Fish | 0,36 mg/l/33d |
| Chronic NOEC for Crustacea | 0,01 mg/l/21d |
| Chronic NOEC for Algae / Aquatic Plants | > 0,00018 mg/l |

ETHYL ACETATE

| | |
|---|---|
| LC50 - for Fish | 230 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea | 165 mg/l/48h Daphnia cucullata |
| EC10 for Algae / Aquatic Plants | 2,3 mg/l/48h |
| Chronic NOEC for Fish | 9,65 mg/l/32d pimephales promelas |
| Chronic NOEC for Crustacea | 2,4 mg/l/21d Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants | 100 mg/l/72h Scenedesmus subspicatus |

**12.2. Persistence and degradability**

## SECTION 12. Ecological information ... / >>

ETHYL ACETATE
Solubility in water > 10000 mg/l
Rapidly degradable

**12.3. Bioaccumulative potential**

ETHYL ACETATE
Partition coefficient: n-octanol/water 0,68
BCF 30

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. Other adverse effects**

Information not available

## SECTION 13. Disposal considerations

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

**14.1. UN number or ID number**

ADR / RID, IMDG, IATA: UN 1173

**14.2. UN proper shipping name**

ADR / RID: Ethyl acetate
IMDG: Ethyl acetate
IATA: Ethyl acetate

## SECTION 14. Transport information ... / >>

### 14.3. Transport hazard class(es)

| | | |
|---|---|---|
| ADR / RID: | Class: 3 | Label: 3 |
| IMDG: | Class: 3 | Label: 3 |
| IATA: | Class: 3 | Label: 3 |



### 14.4. Packing group

ADR / RID, IMDG, IATA: II

### 14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

### 14.6. Special precautions for user

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: 33<br>Special provision: - | Limited Quantities: 1 L | Tunnel restriction code: (D/E) |
| IMDG: | EMS: F-E, S-D | Limited Quantities: 1 L | |
| IATA: | Cargo:<br>Passengers:<br>Special provision: | Maximum quantity: 60 L<br>Maximum quantity: 5 L<br>- | Packaging instructions: 364<br>Packaging instructions: 353 |

### 14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

## SECTION 15. Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

## SECTION 15. Regulatory information ... / >>

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|---|---|
| **Flam. Liq. 2** | Flammable liquid, category 2 |
| **Eye Irrit. 2** | Eye irritation, category 2 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Aquatic Chronic 4** | Hazardous to the aquatic environment, chronic toxicity, category 4 |
| **H225** | Highly flammable liquid and vapour. |
| **H319** | Causes serious eye irritation. |
| **H336** | May cause drowsiness or dizziness. |
| **H413** | May cause long lasting harmful effects to aquatic life. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament

## SECTION 16. Other information ... / >>

9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
04 / 08 / 14.