# Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

**1.1. Product identifier**

Code: **M2112, M2138**

Product name **JOLLY MASTICE PER MARMI BIANCO**

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

Intended use **Mastic for marble, Professional use only.**

**Uses related to the substances:**

| Identified Uses | Industrial | Professional | Consumer |
|---|---|---|---|
| Styrene | - | PROC: 1, 10, 11, 3, 4, 5, 8a. | - |
| Uses Advised Against | | | |
| SU21: Consumer use | | | |

**1.3. Details of the supplier of the safety data sheet**

Name **ILPA ADESIVI SRL**

Full address **Via Ferorelli, 4**

District and Country **70132 BARI (BARI)**
**ITALIA**

**Tel. + 39 0805383837**

**Fax + 39 0805377807**

e-mail address of the competent person responsible for the Safety Data Sheet **laboratorio@ilpa.it**

**1.4. Emergency telephone number**

For urgent inquiries refer to **+ 39 0808974667 (Technical support - 8,00 - 17,00 - LUN-VEN; MON-FRI)(Italian time zone)**
Safety Executive (HSE) Chemicals Regulation Directorate 5S.1 Redgrave Court, Merton Road, Bootle, Merseyside. L20 7HS.
Phone: +44 151 9513317

## 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 2015/830.
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. |
| Reproductive toxicity, category 2 | H361d | Suspected of damaging the unborn child. |
| Specific target organ toxicity - repeated exposure, category 1 | H372 | Causes damage to organs through prolonged or repeated exposure. |
| Eye irritation, category 2 | H319 | Causes serious eye irritation. |
| Skin irritation, category 2 | H315 | Causes skin irritation. |
| Skin sensitization, category 1A | H317 | May cause an allergic skin reaction. |

**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:

| | |
|---|---|
| **H226** | Flammable liquid and vapour. |
| **H361d** | Suspected of damaging the unborn child. |
| **H372** | Causes damage to organs through prolonged or repeated exposure. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **EUH208** | Contains: Fatty acids, C14-18 and C16-18-unsatd., maleated<br>May produce an allergic reaction. |

Precautionary statements:

| | |
|---|---|
| **P201** | Obtain special instructions before use. |
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P260** | Do not breathe dust / fume / gas / mist / vapours / spray. |
| **P280** | Wear protective gloves / eye protection / face protection. |
| **P308+P313** | IF exposed or concerned: Get medical advice / attention. |
| **P370+P378** | In case of fire: useuse carbon dioxide, foam, chemical powder to extinguish. |

**Contains:** STYRENE
MALEIC ANHYDRIDE

Product not intended for uses provided for by Dir. 2004/42/CE.

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

## SECTION 3. Composition/information on ingredients

**3.2. Mixtures**

Contains:

| Identification | x = Conc. % | Classification 1272/2008 (CLP) |
|---|---|---|
| **STYRENE** | | |
| CAS 100-42-5 | 15 ≤ x < 16,5 | Flam. Liq. 3 H226, Repr. 2 H361d, Acute Tox. 4 H332, STOT RE 1 H372, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note/notes according to Annex VI to the CLP Regulation: D |
| EC 202-851-5 | | |
| INDEX 601-026-00-0 | | |
| Reg. no. 01-2119457861-32 | | |
| **Fatty acids, C14-18 and C16-18-unsatd., maleated** | | |
| CAS 85711-46-2 | 0,3035 ≤ x < 0,3535 | Skin Irrit. 2 H315, Skin Sens. 1 H317 |
| EC 288-306-2 | | |
| INDEX - | | |
| Reg. no. 01-2119976378-19 | | |
| **XYLENE (MIXTURE OF ISOMERS)** | | |
| CAS 1330-20-7 | 0,2 ≤ x < 0,25 | Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Classification note/notes according to Annex VI to the CLP Regulation: C |
| EC 215-535-7 | | |
| INDEX 601-022-00-9 | | |
| Reg. no. 01-2119488216-32 | | |
| **1,1 '- (p-tolylimino) dipropan-2-ol** | | |
| CAS 38668-48-3 | 0,1 ≤ x < 0,15 | Acute Tox. 2 H300, Eye Irrit. 2 H319, Aquatic Chronic 3 H412 |
| EC 254-075-1 | | |
| INDEX - | | |
| Reg. no. 01-2119980937-17-XXXX | | |
| **ETHYLBENZENE** | | |
| CAS 100-41-4 | 0,05 ≤ x < 0,1 | Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Aquatic Chronic 3 H412 |
| EC 202-849-4 | | |
| INDEX 601-023-00-4 | | |
| Reg. no. 01-2119489370-35 | | |
| **MALEIC ANHYDRIDE** | | |
| CAS 108-31-6 | 0,001 ≤ x < 0,05 | Acute Tox. 4 H302, STOT RE 1 H372, Skin Corr. 1B H314, Eye Dam. 1 H318, Resp. Sens. 1 H334, Skin Sens. 1A H317, EUH071 |

EC 203-571-6

INDEX 607-096-00-9

Reg. no. 01-2119472428-31-XXXX

**DIPROPYLENE GLYCOL MONOMETHYL ETHER**
CAS 34590-94-8 0 ≤ x < 0,05 Substance with a community workplace exposure limit.

EC 252-104-2

INDEX -

Reg. no. 01-2119450011-60-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**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

PROTECTIVE MEASURES FOR THE FIRST RESCUE WORKERS: for PPE (personal protection equipment) required for first aid refer to section 8.2 of this safety data sheet.

**4.2. Most important symptoms and effects, both acute and delayed**

Specific information on symptoms and effects caused by the product are unknown.

**4.3. Indication of any immediate medical attention and special treatment needed**

Information not available

## 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. 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)**

No use other than specified in Section 1.2 of this safety data sheet.

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory References:

| | | |
|---|---|---|
| DEU | Deutschland | TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte |
| ESP | España | LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST) |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS |
| GRC | Ελλάδα | ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018 |
| HRV | Hrvatska | Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/18) |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| NLD | Nederland | Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII |
| PRT | Portugal | Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018 |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Third edition, published 2018) |
| EU | OEL EU | 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 2020 |

**STYRENE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 86 | 20 | 172 | 40 | |
| VLEP | FRA | 100 | 23,3 | 200 | 46,6 | |
| TLV | GRC | 425 | 100 | 1050 | 250 | |
| GVI/KGVI | HRV | 430 | 100 | 1080 | 250 | SKIN |
| TGG | NLD | 107 | | | | |
| WEL | GBR | 430 | 100 | 1080 | 250 | |
| TLV-ACGIH | | 10 | | 20 | | |

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0,028 | mg/l |
| Normal value in marine water | 0,014 | mg/l |
| Normal value for fresh water sediment | 0,614 | mg/kg/d |
| Normal value for marine water sediment | 0,0614 | mg/kg/d |
| Normal value for water, intermittent release | 0,04 | mg/l |
| Normal value of STP microorganisms | 5 | mg/l |
| Normal value for the terrestrial compartment | 0,2 | mg/kg/d |

**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 | | | VND | 2,1 mg/kg bw/d | | | | |
| Inhalation | 182,75 mg/m3 | 174,25 mg/m3 | VND | 10,2 mg/m3 | 306 mg/m3 | 289 mg/m3 | VND | 85 mg/m3 |

| | | | | |
|---|---|---|---|---|
| Skin | VND | 343 mg/kg bw/d | VND | 406 mg/kg bw/d |

**Fatty acids, C14-18 and C16-18-unsatd., maleated**

| 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) | NEA |
| Normal value for the terrestrial compartment | NEA |
| 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 | VND | NPI | VND | NPI | | | | |
| Inhalation | VND | NPI | VND | NPI | VND | NPI | VND | NPI |
| Skin | VND | NPI | VND | NPI | VND | NPI | VND | NPI |

**XYLENE (MIXTURE OF ISOMERS)**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 440 | 100 | 880 | 200 | SKIN |
| MAK | DEU | 440 | 100 | 880 | 200 | SKIN |
| VLA | ESP | 221 | 50 | 442 | 100 | SKIN |
| VLEP | FRA | 221 | 50 | 442 | 100 | SKIN |
| TLV | GRC | 435 | 100 | 650 | 150 | |
| GVI/KGVI | HRV | 221 | 50 | 442 | 100 | SKIN |
| VLEP | ITA | 221 | 50 | 442 | 100 | SKIN |
| TGG | NLD | 210 | | 442 | | SKIN |
| VLE | PRT | 221 | 50 | 442 | 100 | SKIN |
| WEL | GBR | 220 | 50 | 441 | 100 | SKIN |
| OEL | EU | 221 | 50 | 442 | 100 | SKIN |
| TLV-ACGIH | | 434 | 100 | 651 | 150 | |

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0,327 | mg/l |
| Normal value in marine water | 0,327 | mg/l |
| Normal value for fresh water sediment | 12,46 | mg/kg/d |
| Normal value for marine water sediment | 12,46 | mg/kg/d |
| Normal value for water, intermittent release | 0,327 | mg/l |
| Normal value of STP microorganisms | 6,58 | mg/l |

| | | |
|---|---|---|
| Normal value for the terrestrial compartment | 2,31 | mg/kg/d |

**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 | | | VND | 1,6 mg/kg bw/d | | | | |
| Inhalation | 174 mg/m3 | 174 mg/m3 | VND | 14,8 mg/m3 | 289 mg/m3 | 289 mg/m3 | VND | 77 mg/m3 |
| Skin | | | VND | 108 mg/kg bw/d | | | VND | 180 mg/kg bw/d |

**1,1 '- (p-tolylimino) dipropan-2-ol**

Predicted no-effect concentration - PNEC

| | | |
|---|---|---|
| Normal value in fresh water | 0,017 | mg/l |
| Normal value in marine water | 0,002 | mg/l |
| Normal value for fresh water sediment | 0,078 | mg/kg |
| Normal value for marine water sediment | 0,008 | mg/kg |
| Normal value for water, intermittent release | 0,17 | mg/l |
| Normal value of STP microorganisms | 199,5 | mg/l |
| Normal value for the terrestrial compartment | 0,005 | 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 | | | | 0,3 mg/kg bw/d | | | | 0,3 |
| Inhalation | | | | 0,4 mg/m3 | | | | 2 mg/m3 |
| Skin | | | | 0,3 mg/kg bw/d | | | | 0,6 mg/kg bw/d |

**ETHYLBENZENE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 88 | 20 | 176 | 40 | SKIN |
| MAK | DEU | 88 | 20 | 176 | 40 | SKIN |
| VLA | ESP | 441 | 100 | 884 | 200 | SKIN |
| VLEP | FRA | 88,4 | 20 | 442 | 100 | SKIN |
| TLV | GRC | 435 | 100 | 545 | 125 | |
| GVI/KGVI | HRV | 442 | 100 | 884 | 200 | SKIN |
| VLEP | ITA | 442 | 100 | 884 | 200 | SKIN |
| TGG | NLD | 215 | | 430 | | SKIN |
| VLE | PRT | 442 | 100 | 884 | 200 | SKIN |
| WEL | GBR | 441 | 100 | 552 | 125 | SKIN |
| OEL | EU | 442 | 100 | 884 | 200 | SKIN |
| TLV-ACGIH | | 87 | 20 | | | |

Predicted no-effect concentration - PNEC

| | | |
|---|---|---|
| Normal value in fresh water | 1 | mg/l |

| | | |
|---|---|---|
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 137 | mg/kg/d |
| Normal value for marine water sediment | 137 | mg/kg/d |
| Normal value for water, intermittent release | 1 | mg/l |
| Normal value of STP microorganisms | 96 | mg/l |
| Normal value for the terrestrial compartment | 268 | mg/kg/d |

**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 | 1,6 mg/kg bw/d | | | | |
| Inhalation | NPI | VND | NPI | 15 mg/m3 | 293 mg/m3 | VND | NPI | 77 mg/m3 |
| Skin | NPI | NPI | NPI | NPI | NPI | NPI | NPI | 180 mg/kg bw/d |

**MALEIC ANHYDRIDE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 0,081 | 0,02 | 0,081 (C) | 0,02 (C) | |
| MAK | DEU | 0,081 | 0,02 | 0,081 (C) | 0,02 (C) | C = 0,20 mg/m3 |
| VLA | ESP | 0,4 | 0,1 | | | |
| VLEP | FRA | | | 1 | | |
| TLV | GRC | 1 | | | | |
| GVI/KGVI | HRV | 0,41 | 0,1 | 0,8 | 0,2 | INHAL |
| GVI/KGVI | HRV | 0,41 | 0,1 | 0,8 | 0,2 | SKIN |
| WEL | GBR | 1 | | 3 | | |
| TLV-ACGIH | | 0,01 | 0,0025 | | | |

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0,075 | mg/l |
| Normal value in marine water | 0,0075 | mg/l |
| Normal value for fresh water sediment | 0,06 | mg/kg |
| Normal value for marine water sediment | 0,006 | mg/kg |
| Normal value for water, intermittent release | 48,1 | mg/l |
| Normal value of STP microorganisms | 4,46 | mg/l |
| Normal value for the food chain (secondary poisoning) | 6,67 | mg/kg |
| 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 | | 0,1 mg/kg bw/d | | 0,06 mg/kg bw/d | | | | |
| Inhalation | | | 0,08 mg/m3 | 0,05 mg/m3 | 0,8 mg/m3 | 0,8 mg/m3 | 0,32 mg/m3 | 0,19 mg/m3 |
| Skin | | 0,1 mg/kg bw/d | | 0,1 mg/kg bw/d | | 0,2 mg/kg bw/d | | 0,2 mg/kg bw/d |

**DIPROPYLENE GLYCOL MONOMETHYL ETHER**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 310 | 50 | 310 | 50 | |
| MAK | DEU | 310 | 50 | 310 | 50 | |
| VLA | ESP | 308 | 50 | | | SKIN |
| VLEP | FRA | 308 | 50 | | | SKIN |
| TLV | GRC | 600 | 100 | 900 | 150 | |
| GVI/KGVI | HRV | 308 | 50 | | | SKIN |
| VLEP | ITA | 308 | 50 | | | SKIN |
| TGG | NLD | 300 | | | | |
| VLE | PRT | 308 | 50 | | | SKIN |
| WEL | GBR | 308 | 50 | | | SKIN |
| OEL | EU | 308 | 50 | | | SKIN |
| TLV-ACGIH | | 606 | 100 | 909 | 150 | SKIN |

| 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 | | | | 1,67 mg/kg bw/d | | | | |
| Inhalation | | | | 37,2 mg/m3 | | | | 310 mg/m3 |
| Skin | | | | 15 mg/kg bw/d | | | | 65 mg/kg bw/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.

**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.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
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 III 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 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, 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). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
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. The protection provided by masks is in any case limited.
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

| | | |
|---|---|---|
| Appearance | viscous liquid | |
| Colour | white | |
| Odour | characteristic of solvent | |
| Odour threshold | Not available | Remark:(STYRENE: Journal of Applied Toxicology, 3(6):272-290. 1983.)<br>Concentration:0,32 ppm<br>Substance:STYRENE |
| pH | Not applicable | Reason for missing data:solvent based product, insoluble in water. |
| Melting point / freezing point | Not available | Substance:STYRENE<br>Temperature:-30,7°C |
| Initial boiling point | Not available | Substance:STYRENE<br>Temperature:145°C |
| Boiling range | Not applicable | |

| | | |
|---|---|---|
| Flash point | 23 ≤ T ≤ 60 °C | |
| Evaporation rate | Not available | Concentration:0,49 (butyl acetate=1)<br>Substance:STYRENE |
| Flammability (solid, gas) | not applicable | |
| Lower inflammability limit | Not available | Concentration:1,2 Vol%<br>Substance:STYRENE |
| Upper inflammability limit | Not available | Concentration:8,9 Vol%<br>Substance:STYRENE |
| Lower explosive limit | Not applicable | |
| Upper explosive limit | Not applicable | |
| Vapour pressure | Not available | Concentration:6,67 hPa (T=20°C)<br>Substance:STYRENE |
| Vapour density | Not available | Concentration:3,6 (air=1)<br>Substance:STYRENE |
| Relative density | 1,1 g/ml | |
| Solubility | insoluble in water | |
| Partition coefficient: n-octanol/water | Not available | Concentration:Log Pow 2,96<br>Substance:STYRENE |
| Auto-ignition temperature | Not available | Substance:STYRENE<br>Temperature:490°C (1,013hPa) |
| Decomposition temperature | Not applicable | |
| Viscosity | 10 ± 2 Pas (T = 25 °C) | |
| Explosive properties | Product is not explosive.<br>(STYRENE) | |
| Oxidising properties | Non oxidizing product | |

**9.2. Other information**

| | | | | |
|---|---|---|---|---|
| VOC (Directive 2010/75/EC) : | 16,26 % | - | 178,85 | g/litre |
| VOC (volatile carbon) : | 14,97 % | - | 164,69 | 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.

STYRENE

Polymerises at temperatures above 65°C/149°F.Fire hazard.Possibility of explosion.

Added with an inhibitor that requires a small amount of dissolved oxygen at temperatures < 25°C/77°F.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Forms peroxides with: air.

**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.

STYRENE

May react dangerously with: peroxides,strong acids.May polymerise on contact with: aluminium trichloride,azobisisobutyronitrile,dibenzoyl peroxide,sodium.Risk of explosion on contact with: butyllithium,chlorosulphuric acid,diterbutyl peroxide,oxidising substances,oxygen.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.

ETHYLBENZENE

Reacts violently with: strong oxidants.Attacks various types of plastic materials.May form explosive mixtures with: air.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

May react violently with: strong oxidising agents.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

STYRENE

Avoid contact with: oxidising substances,copper,strong acids.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Avoid exposure to: sources of heat.Possibility of explosion.

**10.5. Incompatible materials**

STYRENE

Incompatible materials: plastic materials.

**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.

ETHYLBENZENE

May develop: methane,styrene,hydrogen,ethane.

## 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 toxicological effects**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

STYRENE

WORKERS: inhalation; contact with the skin.

XYLENE (MIXTURE OF ISOMERS)

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

ETHYLBENZENE

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

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

STYRENE

The acute toxicity by inhalation at 1000 ppm affects the central nervous system with headache and dizziness, lack of coordination; irritation of the eye and respiratory tract mucous membranes occurs at 500 ppm. Chronic exposure causes depression of the central and peripheral nervous system with loss of memory, headache and drowsiness starting at 20 ppm; digestive disorders with nausea and loss of appetite; irritation of the respiratory tract with chronic bronchitis; dermatosis. Repeated exposure, at low doses of inhaled substance, causes irreversible changes to hearing and may cause changes in colour vision. No certain data is available on the reversibility of the visual impairment. Repeated skin exposure causes irritation. The substance degreases the skin, which can cause dryness and cracking.

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

ETHYLBENZENE

As the counterparts of benzene, may have an acute effect on the central nervous system, with depression, narcosis, often preceded by dizziness and associated with headache (Ispesl). Is irritating for skin, conjunctiva and respiratory tract.

Interactive effects

STYRENE

The metabolism of the substance is inhibited by ethanol. When styrene is photo-oxidised with ozone and nitrogen dioxide, as in the formation of smog,

products highly irritating for the human eye may ensue.

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:
> 20 mg/l
ATE (Oral) of the mixture:
>2000 mg/kg
ATE (Dermal) of the mixture:
Not classified (no significant component)

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral) 3523 mg/kg Rat (equivalent or similar to EU Method B.1 )

LD50 (Dermal) 4200 mg/kg Rabbit (Industrial Medicine 39, 215-200, 1970)

LC50 (Inhalation) 26 mg/l/4h Rat(equivalent or similar to EU Method B.2)

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LD50 (Oral) > 5000 mg/kg RAT

LD50 (Dermal) > 9500 mg/kg RAT

ETHYLBENZENE

LD50 (Oral) 3500 mg/kg Rat (standard acute method)

LD50 (Dermal) 15354 mg/kg Rabbit (standard acute method)

LC50 (Inhalation) 17,8 mg/l/4h Rat (standard acute method)

STYRENE

LD50 (Oral) 5000 mg/kg Rat (MSDS Supplier)

LD50 (Dermal) > 2000 mg/kg Rat (OECD Guideline 402)

LC50 (Inhalation) 11,8 mg/l/4h Rat (Archives of Environmental Health 18: 878-882 - sito ECHA)

MALEIC ANHYDRIDE

LD50 (Oral) 400 mg/kg Rat

LD50 (Dermal) 610 mg/kg Rat

1,1 '- (p-tolylimino) dipropan-2-ol

LD50 (Oral) > 25 mg/kg rat, (25<mg<200) according to (OECD Guideline 423)

LD50 (Dermal) > 2000 mg/kg rabbit, according to (EU Method B.3)

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
May produce an allergic reaction.Contains:Fatty acids, C14-18 and C16-18-unsatd., maleated

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

STYRENE

Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2002).
Classified as "probable carcinogen" by the US National Toxicology Program (NTP) - (US DHHS, 2014).

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

ETHYLBENZENE

Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000).
Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).

REPRODUCTIVE TOXICITY

Suspected of damaging the unborn child

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Causes damage to organs

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: 10 ± 2 Pas (T = 25 °C)

## 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**

| | |
|---|---|
| XYLENE (MIXTURE OF ISOMERS) | |
| LC50 - for Fish | 2,6 mg/l/96h Oncorhynchus mykiss (OECD TG 203) |
| Chronic NOEC for Fish | 1,3 mg/l 56d Oncorhynchus mykiss (Appl. Sci. Branch, Eng. Res. Cent. Denver, CO: 15p.) |
| Chronic NOEC for Crustacea | 1,17 mg/l 7d Ceriodaphnia dubia (Ecotoxicology and Environmental Safety 39, 136-146) |
| ETHYLBENZENE | |
| LC50 - for Fish | 4,2 mg/l/96h Oncorhynchus mykiss, according to (OECD Guideline 203) |
| EC50 - for Crustacea | 2,4 mg/l/48h Daphnia magna, According to EPA method F |
| EC50 - for Algae / Aquatic Plants | 5,4 mg/l/72h Selenastrum capricornutum, according to (U.S. EPA.1985 Federal register, Volume 50, Number 188) |
| STYRENE | |
| LC50 - for Fish | 10 mg/l/96h Pimephales promelas (OECD Guideline 203, GLP) |
| EC50 - for Crustacea | 4,7 mg/l/48h Daphnia magna (OECD Guideline 202, GLP) |
| EC50 - for Algae / Aquatic Plants | 4,9 mg/l/72h Selenastrum capricornutum (EPA OTS 797.1050, GLP) |
| Chronic NOEC for Crustacea | 1,01 mg/l/21d Daphnia magna (OECD Guideline 211, GLP) |
| 1,1 '- (p-tolylimino) dipropan-2-ol | |
| LC50 - for Fish | 17 mg/l/96h Brachydanio rerio, according to (Guideline F.1.1. of UBA ) |
| EC50 - for Crustacea | 28,8 mg/l/48h Daphnia magna, according to (OECD Guideline 202 ) |
| EC50 - for Algae / Aquatic Plants | 245 mg/l/72h Desmodesmus subspicatus, according to (OECD Guideline 201) |

**12.2. Persistence and degradability**

XYLENE (MIXTURE OF ISOMERS)

| | |
|---|---|
| Solubility in water | 100 - 1000 Handbook of aqueous solubility data. mg/l |

Rapidly degradable
OECD Guideline 301 F, GLP

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| Solubility in water | 1000 - 10000 mg/l |

Rapidly degradable

ETHYLBENZENE

| | |
|---|---|
| Solubility in water | 1000 - 10000 mg/l |

Rapidly degradable
ISO 14593-CO2-Headspace Test, GLP

STYRENE

| | |
|---|---|
| Solubility in water | 320 mg/l |

Rapidly degradable
10 d, 68% according to (ISO DIS 9408 )

MALEIC ANHYDRIDE

| | |
|---|---|
| Solubility in water | > 10000 mg/l |

Entirely degradable

1,1 '- (p-tolylimino) dipropan-2-ol

Rapidly degradable

**12.3. Bioaccumulative potential**

XYLENE (MIXTURE OF ISOMERS)

| | |
|---|---|
| Partition coefficient: n-octanol/water | 3,12 American Chemical Society, Washington DC |
| BCF | 25,9 Appl. Sci. Branch, Eng. Res. Cent. Denver, CO: 15p. |

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| Partition coefficient: n-octanol/water | 0,0043 |

ETHYLBENZENE

| | |
|---|---|
| Partition coefficient: n-octanol/water | 3,6 |

STYRENE

| | |
|---|---|
| Partition coefficient: n-octanol/water | 2,96 |
| BCF | 74 |

MALEIC ANHYDRIDE

| | |
|---|---|
| Partition coefficient: n-octanol/water | -2,78 |

1,1 '- (p-tolylimino) dipropan-2-ol

| | |
|---|---|
| Partition coefficient: n-octanol/water | 2,1 Log Kow according to (OECD Guideline 107) |

**12.4. Mobility in soil**

XYLENE (MIXTURE OF ISOMERS)

| | |
|---|---|
| Partition coefficient: soil/water | 2,73 equivalent or similar to OECD Guideline 121 |

STYRENE

| | |
|---|---|
| Partition coefficient: soil/water | 352 (Section 4.3 of Chapter on QSAR in the TGD) |

**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. 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**

ADR / RID, IMDG, IATA: 3269

**14.2. UN proper shipping name**

| | |
|---|---|
| ADR / RID: | POLYESTER RESIN KIT (contens: styrene) MIXTURE |
| IMDG: | POLYESTER RESIN KIT (contens: styrene) MIXTURE |
| IATA: | POLYESTER RESIN KIT (contens: styrene) MIXTURE |

**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: | NO |
| IATA: | NO |

**14.6. Special precautions for user**

| | | | |
|---|---|---|---|
| ADR / RID: | HIN - Kemler: -- | Limited Quantities: 5 L | Tunnel restriction code: (E) |
| | Special Provision: - | | |
| IMDG: | EMS: F-E, S-D | Limited Quantities: 5 L | |
| IATA: | Cargo: | Maximum quantity: 10 Kg | Packaging instructions: 370 |
| | Pass.: | Maximum quantity: 10 Kg | Packaging instructions: 370 |
| | Special Instructions: | A66, A163 | |

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

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/EC: P5b

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product Point

3. Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/ 2008:
(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;
(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;
(c) hazard class 4.1;
(d) hazard class 5.1.
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3,

flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.

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 (EC) Reg. 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.

**15.2. Chemical safety assessment**

A chemical safety assessment has been performed for the following contained substances

STYRENE

## 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 |
| **Repr. 2** | Reproductive toxicity, category 2 |
| **Acute Tox. 2** | Acute toxicity, category 2 |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **STOT RE 1** | Specific target organ toxicity - repeated exposure, category 1 |
| **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 |
| **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 |
| **Resp. Sens. 1** | Respiratory sensitization, category 1 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **Skin Sens. 1A** | Skin sensitization, category 1A |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| **H225** | Highly flammable liquid and vapour. |
| **H226** | Flammable liquid and vapour. |
| **H361d** | Suspected of damaging the unborn child. |
| **H300** | Fatal if swallowed. |
| **H302** | Harmful if swallowed. |
| **H312** | Harmful in contact with skin. |
| **H332** | Harmful if inhaled. |
| **H372** | Causes damage to organs through prolonged or repeated exposure. |
| **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. |
| **H319** | Causes serious eye irritation. |
| **H315** | Causes skin irritation. |
| **H335** | May cause respiratory irritation. |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| **H317** | May cause an allergic skin reaction. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH071** | Corrosive to the respiratory tract. |

Use descriptor system:

| | | |
|---|---|---|
| **PROC** | **1** | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. |
| **PROC** | **10** | Roller application or brushing |
| **PROC** | **11** | Non industrial spraying |
| **PROC** | **3** | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition |
| **PROC** | **4** | Chemical production where opportunity for exposure arises |
| **PROC** | **5** | Mixing or blending in batch processes |
| **PROC** | **8a** | Transfer of substance or mixture (charging and discharging) at non- dedicated facilities |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 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 NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 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 STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 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
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9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
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11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
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16. Regulation (EU) 2019/521 (XII 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.

Training for workers:
Worker training should include content, updates and duration depending on the risk profiles assigned to the business sectors they belong