# Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

**1.1. Product identifier**

Code: **M4111, M4167, M4180**

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. For professional use only.**

**Uses related to the substances present:**

| 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-GIO; MON-THU; 8:00 - 13:00 VEN; 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 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. |
| 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. |

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 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) |
|---|---|---|
| **STYRENE** | | |
| CAS 100-42-5 | 12 ≤ x < 13,5 | 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 according to Annex VI to the CLP Regulation: D |
| EC 202-851-5 | | LC50 Inhalation vapours: 11,8 mg/l/4h |
| INDEX 601-026-00-0 | | |
| REACH Reg. 01-2119457861-32 | | |
| **ETHYL ACETATE** | | |
| CAS 141-78-6 | 0 ≤ x < 0,05 | Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066 |
| EC 205-500-4 | | |
| INDEX 607-022-00-5 | | |
| REACH Reg. 01-2119475103-46 | | |
| **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 | | Skin Sens. 1A H317: ≥ 0,001% |
| INDEX 607-096-00-9 | | LD50 Oral: 400 mg/kg |
| REACH Reg. 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 - | | |
| REACH Reg. 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 | Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2021 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS |
| 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``» |
| 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 |
| 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 |
| ROU | România | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum şi pentru modificarea şi completarea hotărârii guvernului nr. 1.093/2006 |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| 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 | |
| MAK | DEU | 86 | 20 | 172 | 40 | |
| 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 | | | | |
| TLV | ROU | 50 | 12 | 150 | 35 | |
| 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 |

**ETHYL ACETATE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |

| | | | | | |
|---|---|---|---|---|---|
| AGW | DEU | 730 | 200 | 1460 | 400 |
| MAK | DEU | 750 | 200 | 1500 | 400 |
| VLA | ESP | 734 | 200 | 1468 | 400 |
| VLEP | FRA | 734 | 200 | 1468 | 400 |
| TLV | GRC | 734 | 200 | 1468 | 400 |
| GVI/KGVI | HRV | 734 | 200 | 1468 | 400 |
| TGG | NLD | 734 | | 1468 | |
| VLE | PRT | 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/d |
| Normal value for marine water sediment | 0,115 | mg/kg/d |
| 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/d |
| 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 | 4,5 mg/kg bw/d | | | | |
| Inhalation | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | 1468 mg/m3 | 734 mg/m3 | 734 mg/m3 |
| Skin | | | VND | 37 mg/kg bw/d | | | VND | 63 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 |
| TLV | ROU | 1 | 0,25 | 3 | 0,75 | |
| WEL | GBR | 1 | | 3 | | |

| 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 |
| TLV | ROU | 308 | 50 | | | SKIN |
| WEL | GBR | 308 | 50 | | | SKIN |
| OEL | EU | 308 | 50 | | | 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

| Properties | Value | Information |
|---|---|---|
| Appearance | paste | |
| Colour | white | |
| Odour | characteristic of solvent | Remark:font: PUBCHEM (https://pubchem.ncbi.nlm.nih.gov)<br>Concentration: 0,32 ppm %<br>Substance:STYRENE |
| Melting point / freezing point | Not available | Substance:STYRENE<br>Temperature: -30,7 °C |
| Initial boiling point | 145 °C | Substance:STYRENE<br>Temperature: 145 °C |
| Flammability | Not available | Remark:Limite inf. 1,2%vol Limite sup. 8,9%vol<br>Substance:STYRENE |
| Lower explosive limit<br>Upper explosive limit<br>Flash point | Not applicable<br>Not applicable<br>23 ≤ T ≤ 60 °C | Substance:STYRENE<br>Substance:STYRENE |
| Auto-ignition temperature | 490 °C | Remark:font: PUBCHEM (https://pubchem.ncbi.nlm.nih.gov)<br>Substance:STYRENE<br>Temperature: 490 °C |
| Decomposition temperature | Not applicable | |
| pH | Not applicable | Reason for missing data:solvent based product, insoluble in water. |
| Kinematic viscosity | 830000 mm2/s | Remark:Kinematic viscosity>20,5 mm2/s, (at 40°C)<br>Temperature: 25 °C |
| Dynamic viscosity | 1500 ± 100 Pas | Temperature: 25 °C |
| Solubility | water: 0,24 g/l; soluble in organic solvents. (STYRENE) | Substance:STYRENE |
| Partition coefficient: n-octanol/water | 2,96 | Remark:font: PUBCHEM (https://pubchem.ncbi.nlm.nih.gov)<br>Concentration: Log Pow 2,96 %<br>Substance:STYRENE |
| Vapour pressure | 6,67 hPa | Remark:FONT: PUBCHEM ( https://pubchem.ncbi.nlm.nih.gov)<br>Substance:STYRENE<br>Temperature: 20 °C |
| Density and/or relative density | 1,8 kg/l | |
| Relative vapour density | 3,6 (air=1) | Remark:FONT: PUBCHEM ( https://pubchem.ncbi.nlm.nih.gov)<br>Substance:STYRENE |

| | |
|---|---|
| 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 available | Concentration: 0,49 (butyl acetate=1) %<br>Substance:STYRENE |
| VOC (Directive 2010/75/EU) | 12,72 % - 228,94 g/litre | |
| VOC (volatile carbon) | 11,70 % - 210,66 g/litre | |
| Explosive properties | Product is not explosive.<br>(STYRENE) | |
| 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.

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.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

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.

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.

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.

ETHYL ACETATE

Avoid exposure to: light,sources of heat,naked flames.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

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

**10.5. Incompatible materials**

STYRENE

Incompatible materials: plastic materials.

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.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.

## 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

STYRENE
WORKERS: inhalation; contact with the skin.

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.

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.

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) |

STYRENE

| | |
|---|---|
| LD50 (Oral): | 5000 mg/kg Rat (MSDS Supplier) |
| LD50 (Dermal): | > 2000 mg/kg Rat (OECD Guideline 402) |
| LC50 (Inhalation vapours): | 11,8 mg/l/4h Rat (Archives of Environmental Health 18: 878-882 - sito ECHA) |

ETHYL ACETATE

| | |
|---|---|
| LD50 (Oral): | 4934 mg/kg Rabbit (Equivalent to OECD 401) |

| | |
|---|---|
| LD50 (Dermal): | 20000 mg/kg Rabbit (Publication Am Ind Hyg Ass J, 23, 95) |
| LC50 (Inhalation vapours): | 22,5 mg/l/6h Rat (40 CFR Part 799 (58 FR 40262)) |

MALEIC ANHYDRIDE

| | |
|---|---|
| LD50 (Oral): | 400 mg/kg Rat |
| LD50 (Dermal): | 610 mg/kg Rat |

DIPROPYLENE GLYCOL MONOMETHYL ETHER

| | |
|---|---|
| LD50 (Oral): | > 5000 mg/kg RAT |
| LD50 (Dermal): | > 9500 mg/kg RAT |

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Respiratory sensitization

Information not available

Skin sensitization

Information not available

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).

REPRODUCTIVE TOXICITY

Suspected of damaging the unborn child

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organ

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

Causes damage to organs

Target organ

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: 830000 mm2/s

**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**

| 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) |

| ETHYL ACETATE | |
|---|---|
| LC50 - for Fish | 230 mg/l/96h Pimephales promelas (US EPA method E03-05) |
| EC50 - for Crustacea | 165 mg/l/48h Dapnia (Rif. SDS fornitore) |
| Chronic NOEC for Crustacea | 100 mg/l Scenedesmus subspicatus (OECD Guideline 201, GLP) |

**12.2. Persistence and degradability**

| DIPROPYLENE GLYCOL MONOMETHYL ETHER | |
|---|---|
| Solubility in water | 1000 - 10000 mg/l |
| Rapidly degradable | |

| STYRENE | |
|---|---|
| Solubility in water | 320 mg/l |
| Rapidly degradable<br>10 d, 68% according to (ISO DIS 9408 ) | |

| ETHYL ACETATE | |
|---|---|
| Solubility in water | > 10000 mg/l |
| Rapidly degradable<br>(Publication JWPCF 46(1), p63-77) | |

| MALEIC ANHYDRIDE | |
|---|---|
| Solubility in water | > 10000 mg/l |
| Entirely degradable | |

**12.3. Bioaccumulative potential**

| DIPROPYLENE GLYCOL MONOMETHYL ETHER | |
|---|---|
| Partition coefficient: n-octanol/water | 0,0043 |

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

| ETHYL ACETATE | |
|---|---|
| Partition coefficient: n-octanol/water | 0,68 |
| BCF | 30 |

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

**12.4. Mobility in soil**

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. 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: 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 provision: | A66, A163 | |

**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. 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.

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.

**15.2. Chemical safety assessment**

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

STYRENE

ETHYL ACETATE

## 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. 4** | Acute toxicity, category 4 |
| **STOT RE 1** | Specific target organ toxicity - repeated exposure, category 1 |
| **Asp. Tox. 1** | Aspiration hazard, category 1 |
| **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. 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. |
| **H302** | Harmful if swallowed. |
| **H332** | Harmful if inhaled. |
| **H372** | Causes damage to organs through prolonged or repeated exposure. |
| **H304** | May be fatal if swallowed and enters airways. |
| **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. |
| **H336** | May cause drowsiness or dizziness. |
| **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
- 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 as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- 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 as for REACH Regulation
- 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)
- 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 belon