

# Permabond UV6160

## Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 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

Product name **Permabond UV6160**

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

Intended use **Adhesive**

| Identified Uses | Industrial | Professional | Consumer |
|-----------------|------------|--------------|----------|
| Use             | ✓          | ✓            | -        |

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

Name **Permabond Engineering Adhesives**  
 Full address **Niederkasseler Lohweg 18**  
 District and Country **40547 Düsseldorf**  
**Germany**

Tel. **+44 (0)1962 711 661**

e-mail address of the competent person responsible for the Safety Data Sheet

**info.europe@permabond.com**

Supplier:

**Permabond Engineering Adhesives Ltd**  
**Wessex Way, Colden Common,**  
**Winchester, Hampshire SO21 1WP, UK**  
 tel: **+44 (0)1962 711 661**  
 mail: **info.europe@permabond.com**

#### 1.4. Emergency telephone number

For urgent inquiries refer to

**+44 (0)1962 711 661 ( 8.00 am-5.00 pm Mon-Fri)**

**CHEMTREC UK: +(44)-870-8200418**  
**CHEMTREC Ireland: +(353)-19014670**  
**CHEMTREC Australia: +(61)-290372994**  
**CHEMTREC New Zealand: +(64)-98010034**

### 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:

|                                                                    |      |                                                       |
|--------------------------------------------------------------------|------|-------------------------------------------------------|
| Eye irritation, category 2                                         | H319 | Causes serious eye irritation.                        |
| Skin irritation, category 2                                        | H315 | Causes skin irritation.                               |
| Specific target organ toxicity - single exposure, category 3       | H335 | May cause respiratory irritation.                     |
| Skin sensitization, category 1A                                    | H317 | May cause an allergic skin reaction.                  |
| Hazardous to the aquatic environment, acute toxicity, category 1   | H400 | Very toxic to aquatic life.                           |
| Hazardous to the aquatic environment, chronic toxicity, category 1 | H410 | Very toxic to aquatic life with long lasting effects. |

**SECTION 2. Hazards identification** ... / >>

**2.2. Label elements**

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Warning

Hazard statements:

- H319** Causes serious eye irritation.
- H315** Causes skin irritation.
- H335** May cause respiratory irritation.
- H317** May cause an allergic skin reaction.
- H410** Very toxic to aquatic life with long lasting effects.

Precautionary statements:

- P273** Avoid release to the environment.
- P280** Wear protective gloves / protective clothing / eye protection / face protection.
- P302+P352** In case of contact with the skin: wash abundantly with soap and water.
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313** IF exposed or concerned: Get medical advice / attention.

**Contains:** ISOBORNYL ACRYLATE  
METHACRYLIC ACID  
MALEIC ACID  
2-HYDROXYETHYL METHACRYLATE  
ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE

**2.3. Other hazards**

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

The product does not contain substances with endocrine disrupting properties in concentration  $\geq$  0.1%.

**SECTION 3. Composition/information on ingredients**

**3.2. Mixtures**

Contains:

| Identification                     | x = Conc. %      | Classification (EC) 1272/2008 (CLP)                                                                                                    |
|------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>ISOBORNYL ACRYLATE</b>          |                  |                                                                                                                                        |
| INDEX                              | $30 \leq x < 60$ | <b>Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1</b> |
| EC 227-561-6                       |                  |                                                                                                                                        |
| CAS 5888-33-5                      |                  |                                                                                                                                        |
| REACH Reg. 01-2119957862-25-XXXX   |                  |                                                                                                                                        |
| <b>2-HYDROXYETHYL METHACRYLATE</b> |                  |                                                                                                                                        |
| INDEX                              | $10 \leq x < 30$ | <b>Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317</b>                                                                        |
| EC 212-782-2                       |                  |                                                                                                                                        |
| CAS 868-77-9                       |                  |                                                                                                                                        |
| REACH Reg. 01-2119490169-29-XXXX   |                  |                                                                                                                                        |

**SECTION 3. Composition/information on ingredients** ... / >>

**METHACRYLIC ACID**

INDEX 607-088-00-5 1 ≤ x < 3

EC 201-204-4  
CAS 79-41-4

REACH Reg. 01-2120741502-64-XXXX

**MALEIC ACID**

INDEX 1 ≤ x < 5

EC 203-742-5  
CAS 110-16-7

REACH Reg. 01-2119488705-25-XXXX

**ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE**

INDEX 1 ≤ x < 2,5

EC 282-810-6  
CAS 84434-11-7

REACH Reg. 01-2119987994-10-XXXX

Acute Tox. 3 H311, Acute Tox. 4 H302, Acute Tox. 4 H332, Skin Corr. 1A H314, Eye Dam. 1 H318, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: D

STOT SE 3 H335: ≥ 1%  
LD50 Oral: 1320 mg/kg, LD50 Dermal: 750 mg/kg, STA Inhalation vapours: 11 mg/l

Acute Tox. 4 H302, Acute Tox. 4 H312, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Skin Sens. 1 H317

STA Oral: 500 mg/kg, STA Dermal: 1100 mg/kg

Skin Sens. 1B H317, Aquatic Chronic 2 H411

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**

Skin: Wash the skin thoroughly with soap and water. If symptoms arise, request medical assistance

Eyes: Make sure you have removed any contact lenses before rinsing your eyes. Wash readily and abundantly the eyes with water keeping the eyelids open.

Continue to rinse for at least 15 minutes. Consult a doctor if the discomfort continues.

Ingestion: rinse the mouth with water thoroughly. Make a abundant quantity of water drink.

Do not cause vomiting. Consult a doctor.

Inhalation: move the subject exposed in the open air. Consult a doctor in case of serious symptoms or persistent.

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

Contact with the skin: skin irritation. Mild dermatitis, allergic rash.

Contact with eyes: irritating and can cause redness and pain.

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

Note for the doctor no specific recommendation. Symptomatic treatment.

**SECTION 5. Firefighting measures**

**5.1. Extinguishing media**

**SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

**5.2. Special hazards arising from the substance or mixture**

**HAZARDS DUE TO EXPOSURE IN THE EVENT OF FIRE**

Avoid breathing combustion products, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), and nitric oxides (NO<sub>x</sub>).

**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).

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### SECTION 6. Accidental release measures

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

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

#### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

#### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

### SECTION 7. Handling and storage

#### 7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

#### 7.3. Specific end use(s)

Adhesive

### 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             |
| DNK | Danmark        | Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019                                                                                                                                                     |
| ESP | España         | Límites de exposición profesional para agentes químicos en España 2021                                                                                                                                                                    |
| FRA | France         | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS                                                                                                                                                |
| FIN | Suomi          | HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÄRDSMINISTERIETS PUBLIKATIONER 2020:25                                                                                                                        |
| LVA | Latvija        | Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §)                                                       |
| NOR | Norge          | Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255 |
| ROU | România        | Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006                                                                             |
| SWE | Sverige        | Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)                                                                                                                           |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020)                                                                                                                                                                                 |

**SECTION 8. Exposure controls/personal protection ... / >>**

**MALEIC ACID**

**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               | 334  | mg/kg |
| Normal value for marine water sediment              | 334  | mg/kg |
| Normal value for marine water, intermittent release | 4281 | mg/l  |
| Normal value of STP microorganisms                  | 44,6 | mg/l  |
| Normal value for the terrestrial compartment        | 42   | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| Route of exposure | Effects on consumers |          |         |          | Effects on workers |          |         |          |
|-------------------|----------------------|----------|---------|----------|--------------------|----------|---------|----------|
|                   | Acute                | Acute    | Chronic | Chronic  | Acute              | Acute    | Chronic | Chronic  |
|                   | local                | systemic | local   | systemic | local              | systemic | local   | systemic |
| Inhalation        |                      |          |         |          | 3                  | 3        | 3       | 3        |
|                   |                      |          |         |          | mg/m3              | mg/m3    | mg/m3   | mg/m3    |

**2-HYDROXYETHYL METHACRYLATE**

**Threshold Limit Value**

| Type | Country | TWA/8h |     | STEL/15min |     | Remarks / Observations |
|------|---------|--------|-----|------------|-----|------------------------|
|      |         | mg/m3  | ppm | mg/m3      | ppm |                        |
| TLV  | NOR     | 11     | 2   | 11         | 2   |                        |

**Predicted no-effect concentration - PNEC**

|                                                    |        |       |
|----------------------------------------------------|--------|-------|
| Normal value in fresh water                        | 0,482  | mg/l  |
| Normal value in marine water                       | 0,0482 | mg/l  |
| Normal value for fresh water sediment              | 3,79   | mg/kg |
| Normal value for marine water sediment             | 3,79   | mg/kg |
| Normal value for fresh water, intermittent release | 1      | mg/l  |
| Normal value of STP microorganisms                 | 10     | mg/l  |
| Normal value for the terrestrial compartment       | 0,476  | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| Route of exposure | Effects on consumers |          |         |          | Effects on workers |          |         |          |
|-------------------|----------------------|----------|---------|----------|--------------------|----------|---------|----------|
|                   | Acute                | Acute    | Chronic | Chronic  | Acute              | Acute    | Chronic | Chronic  |
|                   | local                | systemic | local   | systemic | local              | systemic | local   | systemic |
| Oral              |                      |          |         | 0.83     |                    |          |         | 0.83     |
|                   |                      |          |         | mg/kg/d  |                    |          |         | mg/kg/d  |
| Inhalation        |                      |          |         | 2.9      |                    |          |         | 4.9      |
|                   |                      |          |         | mg/m3    |                    |          |         | mg/m3    |
| Skin              |                      |          |         | 0.83     |                    |          |         | 1.3      |
|                   |                      |          |         | mg/kg/d  |                    |          |         | mg/kg/d  |

**ISOBORNYL ACRYLATE**

**Predicted no-effect concentration - PNEC**

|                                              |         |       |
|----------------------------------------------|---------|-------|
| Normal value in fresh water                  | 0,00092 | mg/l  |
| Normal value in marine water                 | 0,00009 | mg/l  |
|                                              | 2       |       |
| Normal value for fresh water sediment        | 0,145   | mg/kg |
| Normal value for marine water sediment       | 0,0145  | mg/kg |
| Normal value of STP microorganisms           | 2       | mg/l  |
| Normal value for the terrestrial compartment | 0,0285  | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| Route of exposure | Effects on consumers |          |         |            | Effects on workers |          |         |            |
|-------------------|----------------------|----------|---------|------------|--------------------|----------|---------|------------|
|                   | Acute                | Acute    | Chronic | Chronic    | Acute              | Acute    | Chronic | Chronic    |
|                   | local                | systemic | local   | systemic   | local              | systemic | local   | systemic   |
| Oral              |                      |          |         | 0.83       |                    |          |         |            |
|                   |                      |          |         | mg/kg bw/d |                    |          |         |            |
| Skin              |                      |          |         | 0.83       |                    |          |         | 1.39       |
|                   |                      |          |         | mg/kg bw/d |                    |          |         | mg/kg bw/d |

**SECTION 8. Exposure controls/personal protection ... / >>**

**METHACRYLIC ACID**

**Threshold Limit Value**

| Type    | Country | TWA/8h |     | STEL/15min |     | Remarks / Observations |
|---------|---------|--------|-----|------------|-----|------------------------|
|         |         | mg/m3  | ppm | mg/m3      | ppm |                        |
| AGW     | DEU     | 180    | 50  | 360        | 100 |                        |
| TLV     | DNK     | 70     | 20  |            |     |                        |
| VLA     | ESP     | 72     | 20  |            |     |                        |
| VLEP    | FRA     | 70     | 20  |            |     |                        |
| HTP     | FIN     | 71     | 20  |            |     |                        |
| RV      | LVA     | 10     |     |            |     |                        |
| TLV     | NOR     | 70     | 20  |            |     |                        |
| TLV     | ROU     | 30     | 8,5 |            |     |                        |
| NGV/KGV | SWE     | 70     | 20  | 100        | 30  |                        |
| WEL     | GBR     | 72     | 20  | 143        | 40  |                        |

**Predicted no-effect concentration - PNEC**

|                              |      |      |
|------------------------------|------|------|
| Normal value in fresh water  | 0,82 | mg/l |
| Normal value in marine water | 0,82 | mg/l |

**Health - Derived no-effect level - DNEL / DMEL**

| Route of exposure | Effects on consumers |                |               | Effects on workers |             |                |               |                  |
|-------------------|----------------------|----------------|---------------|--------------------|-------------|----------------|---------------|------------------|
|                   | Acute local          | Acute systemic | Chronic local | Chronic systemic   | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation        |                      |                | 6.55 mg/m3    | 6.3 mg/m3          |             |                | 88 mg/m3      | 29.6 mg/m3       |
| Skin              |                      |                |               | 2.55 mg/kg bw/d    |             |                |               | 4.25 mg/kg bw/d  |

**ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE**

**Predicted no-effect concentration - PNEC**

|                                              |        |         |
|----------------------------------------------|--------|---------|
| Normal value in fresh water                  | 1      | mg/l    |
| Normal value in marine water                 | 0,0001 | mg/l    |
| Normal value for fresh water sediment        | 0,24   | mg/kg/d |
| Normal value for marine water sediment       | 0,024  | mg/kg/d |
| Normal value for water, intermittent release | 0,0353 | mg/l    |
| Normal value for the terrestrial compartment | 0,047  | mg/kg/d |

**Health - Derived no-effect level - DNEL / DMEL**

| Route of exposure | Effects on consumers |                |               | Effects on workers |             |                |               |                  |
|-------------------|----------------------|----------------|---------------|--------------------|-------------|----------------|---------------|------------------|
|                   | Acute local          | Acute systemic | Chronic local | Chronic systemic   | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Inhalation        |                      |                |               |                    |             |                |               | 5,88 mg/m3       |
| Skin              |                      |                |               |                    |             |                |               | 1,7 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 ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

**HAND PROTECTION**

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, 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 II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

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### SECTION 8. Exposure controls/personal protection ... / >>

#### 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.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

### SECTION 9. Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

| Properties                             | Value          | Information                                                         |
|----------------------------------------|----------------|---------------------------------------------------------------------|
| Appearance                             | liquid         |                                                                     |
| Colour                                 | colourless     |                                                                     |
| Odour                                  | characteristic |                                                                     |
| Melting point / freezing point         | not available  |                                                                     |
| Initial boiling point                  | not available  |                                                                     |
| Flammability                           | not available  |                                                                     |
| Lower explosive limit                  | not available  |                                                                     |
| Upper explosive limit                  | not available  |                                                                     |
| Flash point                            | > 100 °C       |                                                                     |
| Auto-ignition temperature              | not available  |                                                                     |
| Decomposition temperature              | not available  |                                                                     |
| pH                                     | not available  | Reason for missing data:substance/mixture is non-soluble (in water) |
| Kinematic viscosity                    | not available  |                                                                     |
| Dynamic viscosity                      | ~ 1500 mPa.s   | Temperature: 23 °C                                                  |
| Solubility                             | not available  |                                                                     |
| Partition coefficient: n-octanol/water | not available  |                                                                     |
| Vapour pressure                        | not available  |                                                                     |
| Density and/or relative density        | 1,1            |                                                                     |
| Relative vapour density                | not available  |                                                                     |
| Particle characteristics               | not applicable |                                                                     |

#### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

### SECTION 10. Stability and reactivity

#### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

#### 10.2. Chemical stability

The product is stable in normal conditions of use and storage.

#### 10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

**SECTION 10. Stability and reactivity ... / >>**

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

**10.5. Incompatible materials**

Strong reducing and oxidizing agents.

**10.6. Hazardous decomposition products**

By thermal decomposition, carbon monoxide, carbon dioxide and ed other unidentified organic compounds.

**SECTION 11. Toxicological information**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

|                                            |             |
|--------------------------------------------|-------------|
| ATE (Inhalation - vapours) of the mixture: | > 20 mg/l   |
| ATE (Oral) of the mixture:                 | >2000 mg/kg |
| ATE (Dermal) of the mixture:               | >2000 mg/kg |

|                                  |                                                                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MALEIC ACID</b>               |                                                                                                                                           |
| LD50 (Dermal):                   | > 400 mg/kg                                                                                                                               |
| STA (Dermal):                    | 1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP<br>(figure used for calculation of the acute toxicity estimate of the mixture) |
| LD50 (Oral):                     | 2870 mg/kg                                                                                                                                |
| STA (Oral):                      | 500 mg/kg estimate from table 3.1.2 of Annex I of the CLP<br>(figure used for calculation of the acute toxicity estimate of the mixture)  |
| LC50 (Inhalation mists/powders): | > 0,72 mg/l/1h                                                                                                                            |

|                                    |              |
|------------------------------------|--------------|
| <b>2-HYDROXYETHYL METHACRYLATE</b> |              |
| LD50 (Dermal):                     | > 5000 mg/kg |
| LD50 (Oral):                       | > 5000 mg/kg |

|                           |              |
|---------------------------|--------------|
| <b>ISOBORNYL ACRYLATE</b> |              |
| LD50 (Dermal):            | > 3000 mg/kg |
| LD50 (Oral):              | 4350 mg/kg   |

|                            |                                                                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHACRYLIC ACID</b>    |                                                                                                                                        |
| LD50 (Dermal):             | 750 mg/kg                                                                                                                              |
| LD50 (Oral):               | 1320 mg/kg                                                                                                                             |
| LC50 (Inhalation vapours): | 7,1 mg/l/4h                                                                                                                            |
| STA (Inhalation vapours):  | 11 mg/l estimate from table 3.1.2 of Annex I of the CLP<br>(figure used for calculation of the acute toxicity estimate of the mixture) |

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### SECTION 11. Toxicological information ... / >>

ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE

LD50 (Dermal): > 2000 mg/kg

LD50 (Oral): > 5000 mg/kg

#### SKIN CORROSION / IRRITATION

Causes skin irritation

#### SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

#### RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

#### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

#### CARCINOGENICITY

Does not meet the classification criteria for this hazard class

#### REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

#### STOT - SINGLE EXPOSURE

May cause respiratory irritation

#### STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

#### ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

#### 11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

### SECTION 12. Ecological information

This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it have negative effects on aquatic environment.

#### 12.1. Toxicity

##### MALEIC ACID

LC50 - for Fish 75 mg/l/96h

EC50 - for Crustacea 42,81 mg/l/48h

EC50 - for Algae / Aquatic Plants 74,32 mg/l/72h

##### 2-HYDROXYETHYL METHACRYLATE

LC50 - for Fish > 100 mg/l/96h

EC50 - for Crustacea 380 mg/l/48h

EC50 - for Algae / Aquatic Plants 836 mg/l/72h

##### ISOBORNYL ACRYLATE

LC50 - for Fish 0,704 mg/l/96h

EC50 - for Algae / Aquatic Plants 1,98 mg/l/72h

Chronic NOEC for Fish 0,431 mg/l

Chronic NOEC for Crustacea 0,092 mg/l

Chronic NOEC for Algae / Aquatic Plants 0,405 mg/l

**SECTION 12. Ecological information ... / >>**

METHACRYLIC ACID  
LC50 - for Fish 85 mg/l/96h  
EC50 - for Crustacea > 130 mg/l/48h  
EC50 - for Algae / Aquatic Plants 45 mg/l/72h

ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE  
LC50 - for Fish 1,89 mg/l/96h  
EC50 - for Crustacea 2,26 mg/l/48h  
EC50 - for Algae / Aquatic Plants 1,01 mg/l/72h  
Chronic NOEC for Fish > 1,29 mg/l

**12.2. Persistence and degradability**

2-HYDROXYETHYL METHACRYLATE  
Rapidly degradable

ISOBORNYL ACRYLATE  
NOT rapidly degradable

METHACRYLIC ACID  
Rapidly degradable

ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE  
NOT rapidly degradable

**12.3. Bioaccumulative potential**

Information not available

**12.4. Mobility in soil**

ETHYL PHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINATE  
Partition coefficient: soil/water 3,37

**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  $\geq$  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.

08 04 09\* stickers and sealed sealing, containing organic solvents or other dangerous substances.

**SECTION 14. Transport information**

**14.1. UN number or ID number**

ADR / RID, IMDG, IATA: 3265

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**SECTION 14. Transport information** ... / >>

**14.2. UN proper shipping name**

ADR / RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHACRYLIC ACID; MALEIC ACID)  
 IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHACRYLIC ACID; MALEIC ACID; ISOBORNYL ACRYLATE)  
 IATA: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHACRYLIC ACID; MALEIC ACID)

**14.3. Transport hazard class(es)**

ADR / RID: Class: 8 Label: 8



IMDG: Class: 8 Label: 8



IATA: Class: 8 Label: 8



**14.4. Packing group**

ADR / RID, IMDG, IATA: III

**14.5. Environmental hazards**

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: Environmentally Hazardous



For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

**14.6. Special precautions for user**

|            |                                             |                                                             |                                                            |
|------------|---------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
| ADR / RID: | HIN - Kemler: 80<br>Special provision: -    | Limited Quantities: 5 L                                     | Tunnel restriction code: (E)                               |
| IMDG:      | EMS: F-A, S-B                               | Limited Quantities: 5 L                                     |                                                            |
| IATA:      | Cargo:<br>Passengers:<br>Special provision: | Maximum quantity: 60 L<br>Maximum quantity: 5 L<br>A3, A803 | Packaging instructions: 856<br>Packaging instructions: 852 |

**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: E1

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

|                            |    |
|----------------------------|----|
| <u>Product</u>             |    |
| Point                      | 3  |
| <u>Contained substance</u> |    |
| Point                      | 75 |

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors  
not applicable

**SECTION 15. Regulatory information ... / >>**

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 2: Hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

|                          |                                                                    |
|--------------------------|--------------------------------------------------------------------|
| <b>Acute Tox. 3</b>      | Acute toxicity, category 3                                         |
| <b>Acute Tox. 4</b>      | Acute toxicity, category 4                                         |
| <b>Skin Corr. 1A</b>     | Skin corrosion, category 1A                                        |
| <b>Eye Irrit. 2</b>      | Eye irritation, category 2                                         |
| <b>Skin Irrit. 2</b>     | Skin irritation, category 2                                        |
| <b>STOT SE 3</b>         | Specific target organ toxicity - single exposure, category 3       |
| <b>Skin Sens. 1</b>      | Skin sensitization, category 1                                     |
| <b>Skin Sens. 1A</b>     | Skin sensitization, category 1A                                    |
| <b>Skin Sens. 1B</b>     | Skin sensitization, category 1B                                    |
| <b>Aquatic Acute 1</b>   | Hazardous to the aquatic environment, acute toxicity, category 1   |
| <b>Aquatic Chronic 1</b> | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| <b>Aquatic Chronic 2</b> | Hazardous to the aquatic environment, chronic toxicity, category 2 |
| <b>H311</b>              | Toxic in contact with skin.                                        |
| <b>H302</b>              | Harmful if swallowed.                                              |
| <b>H312</b>              | Harmful in contact with skin.                                      |
| <b>H332</b>              | Harmful if inhaled.                                                |
| <b>H314</b>              | Causes severe skin burns and eye damage.                           |
| <b>H319</b>              | Causes serious eye irritation.                                     |
| <b>H315</b>              | Causes skin irritation.                                            |
| <b>H335</b>              | May cause respiratory irritation.                                  |
| <b>H317</b>              | May cause an allergic skin reaction.                               |
| <b>H400</b>              | Very toxic to aquatic life.                                        |
| <b>H410</b>              | Very toxic to aquatic life with long lasting effects.              |
| <b>H411</b>              | Toxic to aquatic life with long lasting effects.                   |

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

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### SECTION 16. Other information ... / >>

- 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)
22. Delegated Regulation (UE) 2022/692 (XVIII 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.

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**SECTION 16. Other information** ... / >>

Changes to previous review:  
The following sections were modified:  
02 / 03 / 08 / 11 / 12 / 16.