

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

1.1. Product identifier

Code: V130L01; V130L02; V130L07; V130L08

Product name: VILLACRYL S LIQUID

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

Intended use: For professional use only. Liquid component for self-curing resin for denture repairs VILLACRYL S.

1.3. Details of the supplier of the safety data sheet

| | |
|--|-------------------------------|
| Name | Everall7. z o.o |
| Full address | Augustówka 14 |
| District and Country | 02-950 Warszawa |
| | Poland |
| | tel. +48 22 858 82 72 |
| | fax +48 22 642 07 14 |
| e-mail address of the competent person responsible for the Safety Data Sheet | andrzej.ceglinski@everall7.pl |



1.4. Emergency telephone number

| | |
|--------------------------------|--|
| For urgent inquiries refer to: | Fire Service tel. 998, 112 or nearest local branch of Fire Brigade. Toxicological information in Poland 042 631 47 24 |
|--------------------------------|--|

SECTION 2. Hazard identification

2.1. Classification of the substance or mixture

EC Regulation 1272/2008 (CLP) and subsequent amendments and adjustments.

| | |
|---|---|
|  | GHS02 |
| Flam.Liq.2 | H225 Highly flammable liquid and vapour. |
|  | GHS07 |
| Skin Irrit. 2 | H315 Causes skin irritation. |
| Skin Sens. 1 | H317 May cause an allergic skin reaction. |
| STOT SE 3 | H335 May cause respiratory irritation. |

2.2. Label elements

Labeling pursuant to Regulation 1272/2008 (CLP) and following amendments and adjustments.

The product is classified and labeled pursuant to EC Regulation 1272/2008 (CLP).

Hazard piktogramu:



GHS02 GHS07

Signal words: Danger

Contains: Methyl methacrylate

Hazard statements:

| | |
|-------------|--------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H335 | May cause respiratory irritation. |

Precautionary statements:

| | |
|--------------------|--|
| P210 | Keep away from heat/sparks/open flames/hot surfaces – No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P501 | Dispose of contents/container to an authorized waste contractor. |
| P302 + P352 | IF ON SKIN: Wash with soap and water. |

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB.

SECTION 3. Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Contains:

| Identification / Ingredients | | Classification | Conc. % |
|---------------------------------------|-----------------------|---|-----------|
| Methyl methacrylate; MMA | | | |
| CAS No. | 80-62-6 | Flam.Liq.2, Skin Irrit. 2; Skin Sens. 1; STOT SE 3; H225, H315, H317; H335 | >90% |
| EC No. | 201-297-1 | | |
| INDEX No. | 607-035-00-6 | | |
| Reg. No. | 01-2119452498-28-XXXX | | |
| Ethylene dimethacrylate; EGDMA | | | |
| CAS No. | 97-90-5 | Skin Sens. 1; STOT SE 3; H317, H335 | up to 10% |
| EC No. | 202-617-22 | | |
| INDEX No. | 607-114-00-5 | | |
| Reg. No. | 01-2119965172-38-XXXX | | |
| N,N-dimethyl-p-toluidine, DMPT | | | |
| CAS No. | 99-97-8 | Acute toxicity Inhalation 3; Acute toxicity Dermal 3; Acute toxicity Oral 3; STOT RE 2; Chronic Aquatic 3; H301, H311, H331, H373, H412 | < 1% |
| EC No. | 202-805-4 | | |
| INDEX No. | 612-056-00-9 | | |
| Reg. No. | 01-2119956633-31-XXXX | | |

Note: Upper limit is not included into the range.

The full wording of the Risk (R) and hazard (H) phrases are given in section 16 the Safety Data 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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice. |
| SKIN: | Remove contaminated clothing. Immediately wash skin with plenty of soap and water. Flush for 10 minutes. In the event of persistent irritation, get medical advice/attention. Wash contaminated clothing before using it again |
| INHALATION: | Remove person to fresh air and keep comfortable for breathing. If the person stops breathing, administer artificial |

respiration. Get medical advice/attention.

INGESTION: Do not give anything by mouth to an unconscious person. Immediately rinse mouth with water and, than drink 200 – 300 ml of water. Do not induce vomiting. Get immediate medical advice/attention. (show the packaging or label).

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

Direct inhalation exposure to vapours and substances released into the atmosphere can cause respiratory irritation, dizziness, drowsiness, and at high concentrations - temporary blackouts or loss of consciousness. Repeated frequently effects on human lead to a reduction of resistance and the emergence of an allergic reaction.

In sensitive people may occur a strong allergic reactions to the very small amounts of product

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

Treat symptomatically. In the event of swallowed call a poison center.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Ordinary extinguishing equipment: carbon dioxide, foam, extinguishing powder and coolant mist, sand

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

During burning may release into the air: carbon oxide, carbon dioxide and nitric oxide.

The vapor of mixture and air are explosive mixture. Under the influence of high temperature the mixture undergoes rapid polymerization reaction causing an pressure increase in container of the mixture.

5.3. Advice for firefighters

GENERAL INFORMATION

In case of fire move container of mixture to a safe place. Use jets of water to cool the container 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.

Do not breathe vapours. Provide proper ventilation. 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.

6.2. Environmental precautions

Eliminate all sources of ignition, protect manhole cover. 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

Absorb using universal absorbent materials (sand, diatomeous earth, sawdust). Smaller quantities absorb with lignin. Keep in closed containers until disposal. Collect the leaked product into a suitable container. Dispose as hazardous waste. Evaluate the compatibility of the container materials referred to under Section 10 of the Safety Data Sheet.

Use ventilation in contaminated place with releases. Evaluate the incompatibility of the container materials referred to under Section 7 of the Safety Data Sheet. Disposal of contaminated material should be carried out in accordance with guidelines referred to under Section 13 of the Safety Data Sheet.

6.4. Reference to other section

Any other information about personal protection and disposal is provided in sections 8 and 13 of the Safety Data Sheet.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of the Safety Data Sheet. Avoid leakage of the product into the environment.

Avoid contamination of skin, eyes and respiratory system. Avoid forming vapours and aerosols. Use only in well ventilated places. Provide appropriate exhaust ventilation in the workplace. 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, sealed container, in a dry and well ventilated place with temperature not exceeding 30°C. Keep away from sources of ignition and heat. Protect from UV radiation (solar). Keep away containers from any incompatible materials following in accordance with guidelines referred to under Section 10 of the Safety Data Sheet.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

| | |
|-----------|--|
| OEL EU | Directive (EU) 2017/2398; Directive (EU) 2017/164; Commission Directive 2009/161/EU; Commission Directive 2006/15/EC; Directive 2004/37/EC; Commission Directive 2000/39/EC; Commission Directive 91/322/EEC |
| TLV-ACGIH | ACGIH 2016 |

SUBSTANCE NAME: Methyl methacrylate; MMA

EC No.: 201-297-1 CAS No.: 80-62-6

Occupational exposure OEL

| Type | Country | NDS/8 h | | NDSch/15 min | |
|------|---------|-------------------|-----|-------------------|-----|
| | | mg/m ³ | ppm | mg/m ³ | ppm |
| OEL | UE | | 50 | | 100 |

Derived No Effect Level

DNELs / DMEL

| Route of exposure | Workers | | | | Consumers | | | |
|-------------------|------------------------|-----------------------|------------------------|--------------------------|------------------------|-----------------------|------------------------|--------------------------|
| | Acute effects local | Acute effect systemic | Chronic effects local | Chronic effects systemic | Acute effects local | Acute effect systemic | Chronic effects local | Chronic effects systemic |
| Oral | Not required | | | | NPI | | NPI | |
| Inhalation | NPI | NPI | 208 mg/m ³ | 208 mg/m ³ | NPI | NPI | 104 mg/m ³ | 74.3 mg/m ³ |
| Dermal | 1.5 mg/cm ² | NPI | 1.5 mg/cm ² | 13.67 mg/kg bw/day | 1.5 mg/cm ² | NPI | 1.5 mg/cm ² | 8.2 mg/kg bw/day |

Predicted No Effect Concentration

PNECs

| | |
|------------------------------------|------------|
| Freshwater | 940 µg/L |
| Marine water | 940 µg/L |
| Freshwater sediment | 5.74 mg/kg |
| Marine sediment | NEA |
| Food chain | NPI |
| Microorganisms in sewage treatment | 10 mg/L |
| Soil | 1.47 mg/kg |
| Air | NPI |

SUBSTANCE NAME: Ethylene dimethacrylate; EGDMA

EC No.: 202-617-22 CAS No.: 97-90-5

Threshold value

| Type | Country | NDS/8 h | | NDSch/15 min | |
|----------|---------|-------------------|-----|-------------------|-----|
| | | mg/m ³ | ppm | mg/m ³ | ppm |
| EH40 WEL | UE | 208 | 50 | 416 | 100 |

Derived No Effect Level

DNELs / DMEL

| Route of exposure | Workers | | | | Consumers | | | |
|-------------------|---------------------|-----------------------|-------------------|------------------------|-----------------------|-------------------|---------------------|------------------------|
| | Acute effects local | Acute effect systemic | Route of exposure | Acute effects local | Acute effect systemic | Route of exposure | Acute effects local | Acute effect systemic |
| Oral | Not required | | | | NPI | | NPI | 830 µg/kg bw/day |
| Inhalation | NPI | NPI | NPI | 2.45 mg/m ³ | NPI | NPI | NPI | 1.45 mg/m ³ |
| Dermal | VND | NPI | VND | 1.3 mg/kg bw/day | VND | NPI | VND | 830 µg/kg bw/day |

Predicted No Effect Concentration

PNECs

| | |
|--------------|-----------|
| Freshwater | 139 µg/L |
| Marine water | 13.9 µg/L |

| | | |
|------------------------------------|-----------|--|
| Freshwater sediment | 1.6 mg/kg | |
| Marine sediment | 160 µg/kg | |
| Food chain | NPI | |
| Microorganisms in sewage treatment | 57 mg/L | |
| Soil | 239 µg/kg | |
| Air | NPI | |

SUBSTANCE NAME: N,N-dimethyl-p-toluidine, DMPT

EC No.: 202-805-4 CAS No.: 99-97-8

Threshold value

| Type | Country | NDS/8 godz | | NDSch/15 min | |
|------|---------|-------------------|-----|-------------------|-----|
| | | mg/m ³ | ppm | mg/m ³ | ppm |
| OEL | UE | - | - | - | - |

Derived No Effect Level

DNELs / DMEL

| Route of exposure | Workers | | | | Consumers | | | |
|-------------------|---------------------|-----------------------|-------------------|-------------------------|-----------------------|-------------------|---------------------|---------------------------|
| | Acute effects local | Acute effect systemic | Route of exposure | Acute effects local | Acute effect systemic | Route of exposure | Acute effects local | Acute effect systemic |
| Oral | Not required | | | | | | | 173.542 µg/kg bw/day |
| Inhalation | NPI | NPI | NPI | 1.224 mg/m ³ | NPI | NPI | NPI | 301.812 µg/m ³ |
| Dermal | NPI | NPI | NPI | 694.167 µg/kg bw/day | NPI | NPI | NPI | 292.522 µg/kg bw/day |

Predicted No Effect Concentration

PNECs

| | |
|------------------------------------|-----------------------|
| Freshwater | 13.7 - 152.59 µg/L |
| Marine water | 13.7 - 152.59 µg/L |
| Freshwater sediment | 45.378 - 48.245 mg/kg |
| Marine sediment | 45.378 - 48.245 mg/kg |
| Food chain | NPI |
| Microorganisms in sewage treatment | 1.36 - 4.286 mg/L |
| Soil | 18.677 - 20.365 mg/kg |
| Air | NPI |

Legend:

C) = CEILING; INHAL = Inhalable Fraction; RESP = Respirable Fraction; THORA = Thoracic Fraction
VND = hazard identified but no DNEL/PNEC available; NEA = no exposure expected; NPI = no hazard identified

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.

In case of choosing the personal protective equipment seek advice from chemical suppliers if it is needed.

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

HAND PROTECTION

Protect hands with work gloves during work with this product. Work with this product using the gloves. The work gloves should be checked before use. Use the proper technique for removing gloves (without touching the outer surface of the glove) to avoid skin contact with this product. Removal of contaminated gloves after use in accordance with applicable regulations and good laboratory practice.

Chosen work gloves must meet the specifications of the directive 89/686/EEC and standard EN 374.

Material: Nitrile rubber, Minimum thickness: 0.11 mm, Breakthrough time: 480 min.

When using in solution or after mixing with other substances and in other conditions than given in EN 374, contact the supplier of gloves approved in the EU. This recommendation is for advice only and must be evaluated by a health and safety specialist who knows the specific situation of the intended use by our clients. This recommendation should not be interpreted as a proposal for the approval of a specific use scenario.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). The type of protective equipment must be selected according to the concentration and amount of the dangerous substances. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance in the specific workplace. Wash body with soap and water after removing the protective clothing.

EYE PROTECTION

Wear face shields (visors) and safety glasses. To protect the eyes use equipment certified use in accordance with applicable regulations such as NIOSH (USA) or EN 166 (EC).

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 or universal, 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 odorless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|-------------------------------------|
| Appearance | Liquid |
| Color | Colorless |
| Odour | Typical for methacrylic acid esters |
| Odour threshold | Information not available |
| pH | Not applicable |
| Melting point / freezing point | -48,2°C |
| Initial boiling point | > 100°C |
| Boiling range | Information not available |
| Flash point | 10 ° C |
| Evaporation Rate | Information not available |
| Flammability (solid, gas) | Information not available |
| Lower flammability limit | Information not available |
| Upper flammability limit | Information not available |
| Lower explosive limit | 2,1% vol. |
| Upper explosive limit | 12,5% vol. |
| Vapour pressure | 38,7 hPa |
| Vapour density | >1 in 20° C |
| Relative density | 940 kg/m ³ |
| Solubility in water | 15,9 g/l |
| Partition coefficient: n-octanol/water | 1,38 |
| Auto-ignition temperature | 430°C |
| Self-accelerating decomposition temperature (SAPT) | > 50°C |
| Decomposition temperature | Information not available |
| Viscosity | 0,23 mPa s |
| Explosive properties | Information not available |
| Oxidising properties | Information not available |

9.2. Other information

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.

Liquid is stabilized by hydroquinone (CAS no. 123-31-9). Nevertheless, the occurrence of self-polymerization reaction is possible after the expiry date, if the storage temperature is exceeded significantly or in case of direct and strong influence of UV radiation

10.3. Possibility of hazardous reaction

Uncontrolled polymerization reaction in the presence of factors which initiate occurrence of free radicals. The polymerization reaction is exothermic (heat releasing) and in uncontrolled conditions proceed very vigorous.

10.4. Conditions to avoid

The usual precautions used for chemical products should be respected. Keep away from temperatures exceeding 40°C, direct sunlight and heat sources

10.5. Incompatible materials

Strong oxidants, substances that generate free radicals, reducing substances, heavy metal ions, heat sources

10.6. Hazardous decomposition products

Information not available.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Toxicological information on the interaction of substances in mixture are not available, possible health effects are listed based on the properties of the substances contained in the mixture in accordance with the applicable regulations regarding classification. Information on possible health effects shall be included regarding concentrations of hazardous substances referred to under Section 3 of the Safety Data Sheet.

Metabolism, toxicokinetics, mechanism of action and other information: Data for mixture is not available. The product is mixture of methacrylic acid esters. According to literature data MMA and the other methacrylate esters are readily absorbed by all routes and rapidly hydrolyzed by carboxylesterases to methacrylic acid (MAA) and the respective alcohol. A rapid elimination of the substance is expected, mainly in urine, exhaled air (resulting from the conversion into acrylic acid and then into CO₂) and with feces. (ECHA Dossier)

Information on probable routes of exposure: WORKERS: inhalation, skin contact.

Delayed, immediate and chronic effects of short and long term exposure

Inhalation: Vapours may cause nasal irritation with the possibility of runny nose, as well as throat irritation with coughing in some cases, especially in people with particularly sensitive respiratory system. May cause irritation.

Ingestion: Moderate irritation of the mouth, throat, esophagus and stomach, nausea, vomiting, diarrhea, dizziness, drowsiness.

Skin: Contact with liquid may cause from mild to severe irritation, depending on the duration of contact, with itching and excessive drying of the skin. Sensitization may occur in the form of harmless white or brown patches on the skin

Eyes: Fluid may cause tearing, burning sensation and conjunctival redness. In addition, the vapours may have a slight irritating effect

Interaction effects: None

Acute toxicity

Ingestion: LD50 oral (rat) > 2.000 mg/kg (Calculated based on known LD50 values of essential components observing the additivity rule). Based on available data, it does not meet the classification criteria for this hazard class.

Skin: LD50 skin (rabbit) > 5.000 mg/kg (Calculated based on known LD50 values of essential components observing the additivity rule). Based on available data, it does not meet the classification criteria for this hazard class

Skin corrosion / irritation: Causes skin irritation Category 2 (Estimated according to the rule of additivity)

Serious eye damage / eye irritation: Based on available data, it does not meet the classification criteria for this hazard class

Respiratory or skin sensitization: Causes skin sensitization Category 1

CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction)

Mutagenicity: Based on available data, it does not meet the classification criteria for this hazard class.

Carcinogenicity: No component of this product present in an amount above 0.1% is identified by IARC as probable, possible or confirmed human carcinogen. Based on available data, it does not meet the classification criteria for this hazard class.

Toxicity to reproduction: Based on available data, it does not meet the classification criteria for this hazard class.

Toxic effects on target organs – single exposure: Inhalation - irritation

Toxic effects on target organs – repeated exposure: May cause drowsiness or dizziness

Aspiration hazards: Based on available data, it does not meet the classification criteria for this hazard class.

METHYL METHACRYLATE; MMA

Acute toxicity

LD50 (oral) 7 900 mg/kg, (rat, standard method of acute toxicity testing) - ECHA Dossier, MSDS of supplier

LC50 (inhalation): 29.8 mg/L (rat, standard method of acute toxicity testing) - ECHA Dossier

LD50 (skin) > 5 000 mg/kg (rabbit, equivalent or similar method to OECD 402) - ECHA Dossier

Skin corrosion / irritation

Skin irritation: is non-irritant (rabbit, FDA; according to Draize Test) - ECHA Dossier

Data in relation to people

Patch study with volunteers: 18/20 shown erythema and dermatitis after exposure to 5% methyl methacrylate in paraffin or olive oil.

Although a clear distinction between sensitization and irritation is difficult and the exposure period is much longer than usual in irritation tests, the results suggest that MMA may potentially cause skin irritation in humans.

Based on available data, skin irritation category 2.

Eye irritation: is non-irritant (rabbit, 72h, FDA; according to Draize Test) - ECHA Dossier

Respiratory or skin sensitization

Skin sensitization: It sensitizes the skin (mouse, equivalent or similar method to OECD 429) - ECHA Dossier

Toxic effects on target organs

STOT - single exposure: Based on available data shows toxic effects on target organs Category 3. MSDS of supplier

Respiratory irritation

Data in relation to people

Occupational exposure: acute and reversible irritation at concentrations exceeding 100 ppm (approx. 0,410 mg / L; (Coleman, 1963, Roehm 1994, Muttray and others 1997, Muttray and others, 2007) ECHA Dossier

STOT - repeated exposure Based on available data, it does not meet the classification criteria for this hazard class.

CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction)

Genetic toxicity in vitro:

Gene mutation in bacteria: *S. typhimurium* TA97, TA98, TA100, TA1535, with and without metabolic activation: negative (method NTP, Zeiger and others, 1987)

Gene mutation in mammalian cells: Mouse lymphoma assay: weakly positive with and without metabolic activation (Litton 1981)

Test HPRT, cells V79: Ambiguous to weakly positive without metabolic activation (Schweikl and others, 1998)

Mouse lymphoma assay, clastogenicity test: positive without metabolic activation, mainly small colony mutants, indicating deletion mutations instead of gene mutations (Moore and others, 1988)

Cytogenicity in mammalian cells: Chromosome aberration assay in cells CHO: positive at cytotoxic doses (Anderson and others, 1990) - ECHA Dossier

Genetic toxicity in vivo:

Dominant lethal test, mouse: negative (Zeneca / ICI 1996)

Chromosome aberration test, rat: negative / inconclusive (Zeneca / ICI 1976, 1979)

Micronucleus test, mouse: negative (Hachiya and others, 1982) - ECHA Dossier

Based on available data, it does not meet the classification criteria for this hazard class.- ECHA Dossier, MSDS of supplier

Carcinogenicity: It wasn't detected carcinogenic potential in reliable inhalation studies on rats, mice, dogs and hamsters. Based on available data, it does not meet the classification criteria for this hazard class.- ECHA Dossier, MSDS of supplier

Toxicity to reproduction: It wasn't observed effects on fertility or developmental toxicity in several reliable studies on rats, rabbits and mice, even at toxic doses to nursing mothers. Based on available data, it does not meet the classification criteria for this hazard class.- ECHA Dossier

Aspiration toxicity: No data available.

ETHYLENE DIMETHACRYLATE; EGDMA

Acute toxicity

LD50 (orally): > 2 000 mg/kg, (rat, OECD 402) - ECHA Dossier

LD50 (applied to the skin): 2 000 mg/kg, (rat, OECD 402) - ECHA Dossier

Skin corrosion / irritation

Skin irritation: is non-irritant (rabbit, FDA; according to Draize Test) - ECHA Dossier

Eye irritation: is non-irritant (rabbit, 72h, FDA; according to Draize Test) - ECHA Dossier

| |
|---|
| <p>Respiratory or skin sensitization <u>Skin sensitization:</u> It sensitizes the skin (mouse, equivalent or similar method to OECD 429) - ECHA Dossier</p> |
| <p>Toxic effects on target organs <u>STOT - single exposure:</u> Based on available data shows toxic effects on target organs Category 3. MSDS of supplier <u>STOT - repeated exposure:</u> Based on available data, it does not meet the classification criteria for this hazard class</p> |
| <p>CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction) <u>Genetic toxicity in vitro:</u> Based on available data, it does not meet the classification criteria for this hazard class. - ECHA Dossier <u>Genetic toxicity in vivo:</u> Based on available data, it does not meet the classification criteria for this hazard class.- ECHA Dossier, MSDS of supplier</p> |
| <p>Carcinogenicity: No carcinogenicity study is available for EGDMA. For the alcohol metabolite ethylene glycol data are available as well as from the methacrylic metabolite donor substance methyl methacrylate (donor for methacrylic acid). Available data doesn't show carcinogenic properties of the substance. Therefore, EGDMA classification as carcinogenic is not required in accordance with GHS EC Regulation No. 1272/2008. Based on available data, it does not meet the classification criteria for this hazard class.- ECHA Dossier, MSDS of supplier</p> |
| <p>Toxicity to reproduction: There are no data available for EGDMA itself. For the evaluation of EGDMA the data of the primary metabolite, HEMA, and the further metabolites methacrylic acid (and its donor substance methyl methacrylate) and ethylene glycol are used. In the body, HEMA is the first metabolite resulting from the primary ester hydrolysis of EGDMA. Subsequent ester hydrolysis produces methacrylic acid and ethylene glycol. Methyl methacrylate hydrolyses rapidly to methacrylic acid and thus serves as methacrylic acid donor in several test systems investigating systemic effects. Based on available data, it does not meet the classification criteria for this hazard class.- ECHA Dossier</p> |
| <p>Aspiration toxicity: No data available.</p> |
| <p><i>N,N-DIMETHYL-P-TOLUIDINE (DMPT)</i></p> |
| <p>Acute toxicity <u>LD50 (orally):</u> 139 mg/kg , (mouse, literature) - ECHA Dossier <u>LC50 (inhalation):</u> 1400 mg/m³ (rabbit, literature) - ECHA Dossier. <u>LD50 (applied to the skin):</u> > 2 000 mg/kg (rabbit, OECD 402) - ECHA Dossier</p> |
| <p>Skin corrosion / irritation <u>Skin irritation:</u> is non-irritant (rabbit, OECD 404) - ECHA Dossier <u>Eye irritation:</u> is non-irritant (rabbit,, OECD 405) - ECHA Dossier, MSDS of supplier</p> |
| <p>Respiratory or skin sensitization <u>Skin sensitization:</u> not sensitizing (rabbit, other) - ECHA Dossier, MSDS of supplier</p> |
| <p>Toxic effects on target organs <u>STOT - single exposure:</u> Based on available data, it does not meet the classification criteria for this hazard class. ECHA Dossier, MSDS of supplier <u>STOT - repeated exposure:</u> Based on available data, N,N-dimethyl-p-toluidine is classified as STOT RE 2. ECHA Dossier, MSDS of supplier</p> |
| <p>CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction) <u>Genetic toxicity in vitro:</u> negative (bacteria, literature) - ECHA Dossier <u>Genetic toxicity in vivo:</u> No data available. Based on available data, it does not meet the classification criteria for this hazard class - ECHA Dossier, MSDS of supplier</p> |
| <p>Carcinogenicity: Based on available data, it does not meet the classification criteria for this hazard class - ECHA Dossier, MSDS of supplier</p> |
| <p>Toxicity to reproduction: Based on available data, it does not meet the classification criteria for this hazard class - ECHA Dossier</p> |
| <p>Aspiration toxicity: No data available.</p> |
| <p>SECTION 12. Ecological information</p> |
| <p>When using the product comply with good working practices, avoid releasing of the substance to environment. Inform the competent authorities in case of penetrate into the soil, sewer system or come into contact with surface water, ground water or vegetation.</p> |
| <p>12.1. Toxicity</p> |
| <p><i>METHYL METHACRYLATE; MMA</i></p> |
| <p>LC50 for freshwater fish: 0.42 mg/l, 96h, OECD 203, MSDS of supplier LC50 for freshwater fish: 0.034 mg/L, 96h, (measured, TWA) (Oncorhynchus mykiss), ECHA Dossier</p> |

| | | | |
|--------------|--------------------------|----------------|---|
| TEMPLATE No. | EA7-WI EHS-001-01 TEM-02 | REVISION LEVEL | 1 |
|--------------|--------------------------|----------------|---|

NOEC = 0,017 mg / L, 96h (measured, TWA) (Oncorhynchus mykiss), ECHA Dossier
 EC50 / LC50 for freshwater invertebrates: 0,35 mg / L, 48h (measured, TWA) (Daphnia magna), ECHA Dossier
 NOEC = 0,35 mg / L, 48h (measured, TWA) (Daphnia magna), ECHA Dossier
 EC50 for freshwater algae: 0.12 mg/l, 72h, (measured geometric mean) (Desmodesmus subspicatus), ECHA Dossier
 EC10 or NOEC for freshwater algae: 0.12 mg/l, 72h, (measured geometric mean) (Desmodesmus subspicatus), ECHA Dossier
 EC10 or NOEC for microorganisms: 23.9 mg/L, ECHA Dossier

ETHYLENE DIMETHACRYLATE; EGDMA

ETHYLENE DIMETHACRYLATE; EGDMA
 LC50 for freshwater fish: 15.95 mg/l, 48h, OECD 203, ECHA Dossier
 EC50 / LC50 for freshwater invertebrates: 44,9 mg / L, 48h (OECD 202, Daphnia magna), ECHA Dossier
 EC10, LC10 or NOEC for freshwater invertebrates: 7.22 mg/L, 21d (OECD 211, Daphnia magna), ECHA Dossier
 EC50 for freshwater algae: 17.3 mg/l, 72h, (OECD 201, Pseudokirchneriella subcapitata), ECHA Dossier
 EC10 or NOEC for freshwater algae: 6.93 mg/l, 72h, (OECD 201, Pseudokirchneriella subcapitata), ECHA Dossier
 EC50 for microorganisms: 570 mg/L, (equivalent or similar to OECD 209) ECHA Dossier

N,N-DIMETHYL-P-TOLUIDINE (DMPT)

LC50 for freshwater fish: 52.8 mg/L, 96h, Pimephales promelas- ECHA Dossier, MSDS of supplier
 EC50/LC50 for freshwater invertebrates: 23.758 mg/L, 48h Daphnia magna, ECHA Dossier, MSDS of supplier
 EC50 for freshwater algae: 15.481 mg/l, 96h, ECHA Dossier, MSDS of supplier
 EC50 for microorganisms: 13.6 mg/L; 30 min; Photobacterium phosphoreum ECHA Dossier, MSDS of supplier

12.2. Persistence and degradability

METHYL METHACRYLATE; MMA

Readily biodegradable, ECHA Dossier

ETHYLENE DIMETHACRYLATE; EGDMA

Readily biodegradable (100%), ECHA Dossier

N,N-DIMETHYL-P-TOLUIDINE (DMPT)

Readily biodegradable (50%), under test conditions no biodegradation observed (50%), ECHA Dossier, MSDS of supplier

12.3. Bioaccumulative potential.

METHYL METHACRYLATE; MMA

Partition coefficient n-octanol/water: Log Kow (Log Pow)= 1,38 @ 20 °C
 Based on Log Pow 1,38, bioaccumulation of methyl methacrylate is not expected, ECHA Dossier

ETHYLENE DIMETHACRYLATE; EGDMA

Partition coefficient n-octanol/water: Log Kow (Log Pow)= 2.4 @ 20 °C
 Bioaccumulation factor (BCF) – 21,9
 It is considered that the substance has low potential for bioaccumulation, ECHA Dossier

N,N-DIMETHYL-P-TOLUIDINE (DMPT)

Bioaccumulation factor (BCF) – 33
 Bioaccumulation of N,N-dimethyl-p-toluidine is not expected, because does not exceed the threshold criteria

12.4. Mobility in soil

Information not available.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Information not available.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

If possible, dispose as hazardous waste. Unused mixture is hazardous waste and should be stored under control. Do not dispose to sewer system.

Dispose excess mixture. Dispose useless and not suitable for regeneration solution established waste contractor. Pass to an authorized waste contractor.

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

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations as unused product.

Waste code:

16 03 05* Organic wastes containing hazardous substances

15 01 10* Packaging containing residues of or contaminated by hazardous substances

SECTION 14. Transport information

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations. These goods must be packed in their original containers or in packagings made of materials resistant to their content and not reacting dangerously with it. Persons authorized to load and unload dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

14.1. UN number

ADR / RID, IMDG, IATA: 1247

14.2. UN proper shipping name

ADR / RID: METHYL METHACRYLATE, MONOMER, STABILIZED

IMDG: METHYL METHACRYLATE, MONOMER, STABILIZED

IATA: METHYL METHACRYLATE, MONOMER, STABILIZED

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: -

IMDG: -

IATA: -

14.6. Special precautions for user

ADR / RID: Hazard No.: 339 Limited quantity: 1 L Tunnel restriction code: (D/E)

Warning: -

IMDG: EMS: F-E, S-D Limited quantities: 1 L Self-accelerating decomposition temperature (SAPT) >50°C

IATA: Cargo: Max. quantity: No data Packing instructions: No data

Pas.: Max. quantity: No data Packing instructions: No data

Special provisions No data

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

Not applicable.

SECTION 15. Regulatory information

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

Seveso category:

Substances

Methyl methacrylate: 5a; 5b, 5c

N,N-dimethyl-p-toluidine H2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006: None

Substances in Candidate List (Art. 59 REACH): None

Substances subject to authorization (Annex XIV REACH): None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012: None

Substances subject to the Rotterdam Convention: None

Substances subject to the Stockholm Convention: None

Healthcare controls. PL: None

15.2. Chemical Safety Assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information

:Full text of hazard (H) statements mentioned in section 2-3 of the Safety Data Sheet

| | |
|------------------------------|---|
| Flam. Liq. 2 | Flammable Liquid category 2 |
| Skin Irrit. 2 | Skin irritation, category 2 |
| Skin Sens. 1 | Skin sensitization, category 1 |
| STOT SE 3 | Specific target organ toxicity - single exposure category 3 |
| Acute tox. Inhalation | Acute inhalation toxicity |
| Acute tox. Dermal | Acute intradermal toxicity |
| Acute tox. Oral | Acute oral toxicity |
| STOT RE 2 | Specific target organ toxicity - repeated exposure |
| Aquatic Chronic | Chronic aquatic toxicity |
| H225 | Highly flammable liquid and vapour |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H335 | May cause respiratory irritation |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H331 | Toxic if inhaled |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H412 | Harmful to aquatic life with long lasting effects |
| LEGEND: | |
| ATE | Acute Toxicity Estimate |
| ADR | European Agreement concerning the carriage of Dangerous goods by Road |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| CE50: | Effective concentration (required to induce a 50% effect) |

| | |
|-----------|--|
| CE No.: | Identifier in ESIS (European archive of existing substances) |
| CLP | EC Regulation 1272/2008 |
| CAS No. | Chemical Abstract Service Number |
| CMR | Carcinogenic, Mutagenic or Toxic for Reproduction |
| CSA | Chemical Safety Assessment |
| CSR | Chemical Safety Report |
| DNEL | Derived No Effect Level |
| ECHA | European Chemicals Agency |
| EC No. | The EC number, i.e. EINECS, ELINCS or NLP, is the official number of the substance within the European Union |
| EINECS | European Inventory of Existing Chemical Substances |
| EmS: | Emergency Schedule |
| GHS | Globally Harmonized System of classification and labeling of chemicals |
| IATA | International Air Transport Association |
| IATA DGR | International Air Transport Association Dangerous Goods Regulation |
| ICAO-TI | International Civil Aviation Organization - Technical Instructions |
| IC50: | Immobilization Concentration 50% |
| IMDG | International Maritime Code for dangerous goods |
| IMO: | International Maritime Organization |
| IMSBC | International Maritime Solid Bulk Cargoes Code |
| INDEX No. | Identifier in Annex VI of CLP |
| Cow | Octanol/water partition coefficient |
| LC50 | Lethal Concentration 50% |
| LD50 | Lethal Dose 50% |
| LoW | List of Waste (see http://ec.europa.eu/environment/waste/framework/list.htm) |
| MSDS | Material Safety Data Sheet |
| OEL | Occupational Exposure Level |
| OSHA | Occupational Safety and Health Administration |
| PBT | Persistent Bioaccumulative and Toxic as REACH Regulation |
| PEC | Predicted Environmental Concentration |
| PEL | Predicted Exposure Level |
| PNEC | Predicted No Effect Concentration |
| PPE | Personal Protective Equipment |
| REACH | EC Regulation 1907/2006 |
| RID | Regulation concerning the International transport of dangerous goods by train |
| SDS | Safety Data Sheet |
| STOT | Specific Target Organ Toxicity |
| (STOT) RE | Specific Target Organ Toxicity - Repeated Exposure |
| (STOT) SE | Specific Target Organ Toxicity - Single Exposure |
| SVHC | Substances of Very High Concern |

| | |
|-------------|--|
| TLV | Threshold Limit Value |
| TLV CEILING | Concentration that should not be exceeded during any time of occupational exposure |
| TWA STEL | Short-term exposure limit |
| TWA | Time-weighted average exposure limit |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative as for REACH Regulation |

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Note for users:

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. Users should verify if the provided information is correct and full in relation to the specific designation of the product.

This document cannot be identified with the guarantee for any specific product property.

Due to the fact that the application takes place without the possibility of control from the producer's side; therefore user is obliged to comply at his own responsibility with the laws and regulations regarding the occupational health and safety. The producer is relieved from any liability arising from improper uses.

Provide proper training for staff who is appointed to handling the chemical products.

Changes to previous review:

| Revision | Date | Change reference | Implemented by | Change description |
|----------|------------|------------------|-------------------|-------------------------|
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