



Polyurethane Odourless Waterproofing Coating - Embedment Coat

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

Print Date: 01.05.2020

Date of Issue/ Date of Revision: 02.05.2016

Version: 1

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

Product description : Coating.

Product type : Liquid.

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

| Identified uses | |
|--------------------------------------|---|
| Industrial uses Professional uses | |
| Uses advised against | Reason |
| Consumer use | Product is not intended for consumer use. |

Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Skin Sens. 1, H317

Aquatic Chronic 3, H412

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

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

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

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SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms :



Signal word :

Warning

Hazard statements :

May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :

Avoid breathing vapour. Wear protective gloves: nitrile rubber gloves. Avoid release to the environment.

Response :

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Storage :

Not applicable.

Disposal :

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients :

aromatic polyisocyanate prepolymer n.o.s.
1,6-hexanediy-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate
hexamethylene-1,6-diisocyanate oligomer (type uretdione)
hexamethylene-1,6-ddiisocyanate homopolymer
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers
reaction product of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecanamide) 12-hydroxy-N-[2-[(1-oxyhexyl)amino]ethyl]octadecanamide and N,N'-ethane-1,2-diylbis(hexanamide)

Supplemental label elements :

Contains isocyanates. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings :

Not applicable.

Tactile warning of danger :

Not applicable.

2.3 Other hazards

Other hazards which do not result in classification :

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures :

Mixture

| Product/ingredient name | Identifiers | % | Classification | | Type |
|-------------------------|-------------|---|----------------|-------------------------------------|------|
| | | | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] | |
| | | | | | |

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SECTION 3: Composition/information on ingredients

| | | | | | |
|--|--|-------------|---|--|--------|
| aromatic polyisocyanate prepolymer n.o.s. | CAS: - | ≥10 - <25 | R43 | Skin Sens. 1, H317 | [1] |
| 1,6-hexanediy-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl) carbamate | EC: 411-700-4 | ≥5 - <10 | R43 | Skin Sens. 1, H317 | [1] |
| 2-ethylhexyl (3-isocyanatomethylphenyl)-carbamate | CAS: 140921-24-0 Index: 616-079-00-5 EC: 261-180-6 | ≥3 - <5 | Xi; R38 | Skin Irrit. 2, H315 | [1] |
| propylene carbonate | CAS: 58240-57-6 EC: 203-572-1 CAS: 108-32-7 Index: 607-194-00-1 | ≥3 - <5 | Xi; R36 | Eye Irrit. 2, H319 | [1] |
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | REACH #: 01-2119488177-26 | ≥1 - <3 | T; R23 | Acute Tox. 3, H331 | [1] |
| bis(isopropyl) naphthalene | EC: 931-288-4 CAS: 28182-81-2 REACH #: 01-2119565150-48 EC: 254-052-6 | ≥1 - <3 | Xi; R37 R43 Xn; R65 | Skin Sens. 1, H317 STOT SE 3, H335 Asp. Tox. 1, H304 | [1] |
| hexamethylene-1, 6-ddiisocyanate homopolymer | CAS: 38640-62-9 REACH #: 01-2119485796-17 | ≥1 - <3 | R43 | Aquatic Chronic 1, H410 | [1][2] |
| 3-Isocyanatomethyl-3, 5,5-trimethylcyclohexyl isocyanate, oligomers | EC: 931-274-8 CAS: 28182-81-2 EC: 500-125-5 | ≥1 - <3 | R43 | Skin Sens. 1, H317 STOT SE 3, H335 Skin Sens. 1, H317 | [1] |
| tris(2-methoxyethoxy) vinylsilane | CAS: 53880-05-0 EC: 213-934-0 | ≥0.1 - <0.3 | Repr. Cat. 3; R62 | Repr. 2, H361f (Fertility) | [1] |
| | CAS: 1067-53-4 | | See Section 16 for the full text of the R-phrases declared above. | See Section 16 for the full text of the H statements declared above. | |

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

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

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

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SECTION 4: First aid measures**4.1 Description of first aid measures**

| | |
|-----------------------------------|---|
| General | : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice. |
| Eye contact | : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice. |
| Inhalation | : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. |
| Skin contact | : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners. |
| Ingestion | : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting. |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

Contains aromatic polyisocyanate prepolymer n.o.s., 1,6-hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl) carbamate, hexamethylene-1,6-diisocyanate oligomer (type uretdione), hexamethylene-1,6-ddiisocyanate homopolymer, 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers, reaction product of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecanamide) 12-hydroxy-N-[2-[(1-oxohexyl)amino]ethyl]octadecanamide and N,N'-ethane-1,2-diylbis(hexanamide). May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

| | |
|----------------------------|---|
| Notes to physician | : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | : No specific treatment. |

See toxicological information (Section 11)

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SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO₂, powders, water spray or mist.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

Additional information : No unusual hazard if involved in a fire.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

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

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

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

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

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SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

7.1 Precautions for safe handling

- : Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Care should be taken when re-opening partly-used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO₂ will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or watercourses.
- Information on fire and explosion protection**
- Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.

Keep container tightly closed.

Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters**Occupational exposure limits**

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SECTION 8: Exposure controls/personal protection

| Product/ingredient name | Exposure limit values |
|---|--|
| hexamethylene-1,6-diiisocyanate homopolymer | EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin sensitiser. STEL: 0,07 mg/m ³ , (as NCO) 15 minutes. TWA: 0,02 mg/m ³ , (as NCO) 8 hours. |

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|---|------|-----------------------|------------------------|------------|---------|
| hexamethylene-1,6-diiisocyanate oligomer (type uretdione) | DNEL | Short term Inhalation | 0.7 mg/m ³ | Workers | Local |
| | DNEL | Long term Inhalation | 0.35 mg/m ³ | Workers | Local |
| bis(isopropyl) naphthalene | DNEL | Long term Oral | 2.1 mg/kg bw/day | Consumers | - |
| | DNEL | Long term Dermal | 2.1 mg/kg bw/day | Consumers | - |
| | DNEL | Long term Inhalation | 7.4 mg/m ³ | Consumers | - |
| | DNEL | Long term Dermal | 4.3 mg/kg bw/day | Workers | - |
| hexamethylene-1,6-diiisocyanate homopolymer | DNEL | Long term Inhalation | 30 mg/m ³ | Workers | - |
| | DNEL | Short term Inhalation | 1 mg/m ³ | Workers | Local |
| | DNEL | Long term Inhalation | 0.5 mg/m ³ | Workers | Local |

PNECs

| Product/ingredient name | Compartment Detail | Value | Method Detail |
|---|----------------------------|------------------------|---------------|
| hexamethylene-1,6-diiisocyanate oligomer (type uretdione) | Fresh water | >0.05 mg/l | - |
| | Marine | >0.005 mg/l | - |
| | Fresh water sediment | >1.33 mg/kg dwt | - |
| | Marine water sediment | >0.133 mg/kg dwt | - |
| | Soil | >0.066 mg/kg dwt | - |
| | Sewage Treatment Plant | 55.6 mg/l | - |
| | bis(isopropyl) naphthalene | Sewage Treatment Plant | 0.15 mg/l |
| Fresh water | | 0.26 µg/l | - |
| Marine | | 0.026 µg/l | - |
| Fresh water sediment | | 0.94 mg/kg dwt | - |
| Marine water sediment | | 0.094 mg/kg dwt | - |
| hexamethylene-1,6-diiisocyanate homopolymer | Soil | 0.19 mg/kg dwt | - |
| | Fresh water | 0.127 mg/l | - |
| | Marine | 0.0127 mg/l | - |

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| | | | |
|--|-----------------------|------------------|---|
| | Fresh water sediment | 266700 mg/kg dwt | - |
| | Marine water sediment | 26670 mg/kg dwt | - |
| | Soil | 53182 mg/kg dwt | - |
| | Sewage Treatment | 38.28 mg/l | - |
| | Plant | | |

8.2 Exposure controls

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn. (See Occupational exposure controls.)

Individual protection measures

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

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields. (EN 166)

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: > 8 hours (breakthrough time): nitrile rubber (0.5mm)

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

EN 374-3 : 2003

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear overalls or long sleeved shirt. (EN 467)

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- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour (Type A) and particulate filter (EN 141)
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: 102°C
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : 1.42
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Dynamic (room temperature): 7000 mPa·s
- Explosive properties** : Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Oxidising properties** : Not available.

9.2 Other information

No additional information.

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SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.
- 10.4 Conditions to avoid** : In a fire, hazardous decomposition products may be produced.
- 10.5 Incompatible materials** : Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂ and smoke can be generated.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

Contains aromatic polyisocyanate prepolymer n.o.s., 1,6-hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl) carbamate, hexamethylene-1,6-diisocyanate oligomer (type uretdione), hexamethylene-1,6-ddiisocyanate homopolymer, 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers, reaction product of N,N'-ethane-1,2-diylbis(12-hydroxyoctadecanamide) 12-hydroxy-N-[2-[(1-oxihexyl)amino]ethyl]octadecanamide and N,N'-ethane-1,2-diylbis(hexanamide). May produce an allergic reaction.

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|---------------------------------|---------|-----------------------|----------|
| aromatic polyisocyanate prepolymer n.o.s. | LD50 Oral | Rat | >5000 mg/kg | - |
| propylene carbonate | LD50 Oral | Rat | >5000 mg/kg | - |
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | LC50 Inhalation Dusts and mists | Rat | 158 mg/m ³ | 4 hours |
| bis(isopropyl) naphthalene | LD50 Oral | Rat | >5000 mg/kg | - |
| | LC50 Inhalation Vapour | Rat | 5.64 mg/l | 4 hours |
| | LD50 Dermal | Rat | >4500 mg/kg | - |
| | LD50 Oral | Rat | >4000 mg/kg | - |

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| | | | | |
|---|---------------------------------|--------------|-----------------------|---------|
| hexamethylene-1, 6-diiisocyanate homopolymer | LC50 Inhalation Dusts and mists | Rat - Female | 390 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| | LD50 Dermal | Rat | >2000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| 3-Isocyanatomethyl-3,5, 5-trimethylcyclohexyl isocyanate, oligomers | LC50 Inhalation Dusts and mists | Rat | >5.01 mg/l | 4 hours |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| tris(2-methoxyethoxy) vinylsilane | LD50 Oral | Rat | 2960 mg/kg | - |

Conclusion/Summary Acute toxicity estimates

: Based on available data, the classification criteria are not met.

Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--|--------------------------|---------|-------|--------------------------------------|-------------|
| 2-ethylhexyl (3-isocyanatomethylphenyl)- carbamate propylene carbonate | Eyes - Severe irritant | Rabbit | - | 24 hours 100 microliters | - |
| | Eyes - Moderate irritant | Rabbit | - | 60 milligrams | - |
| | Skin - Moderate irritant | Human | - | 72 hours 100 milligrams Intermittent | - |
| hexamethylene-1, 6-diiisocyanate oligomer (type uretdione) | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Oedema | Rabbit | 1 | 4 hours | - |
| bis(isopropyl) naphthalene | Eyes - Cornea opacity | Rabbit | 1 | - | - |
| | Skin - Oedema | Rabbit | 0 | - | - |
| | Eyes - Cornea opacity | Rabbit | 0 | - | - |
| hexamethylene-1, 6-diiisocyanate homopolymer | Skin - Oedema | Rabbit | 1 | 4 hours | - |
| | Eyes - Cornea opacity | Rabbit | 1 | - | - |
| 3-Isocyanatomethyl-3,5, 5-trimethylcyclohexyl isocyanate, oligomers | Skin - Oedema | Rabbit | 0 | - | - |
| | Eyes - Cornea opacity | Rabbit | 1 | - | - |
| tris(2-methoxyethoxy) vinylsilane | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| | | Rabbit | - | | - |

Conclusion/Summary

Skin

: Based on available data, the classification criteria are not met.

Eyes

: Based on available data, the classification criteria are not met.

Respiratory

: Based on available data, the classification criteria are not met.

Sensitisation

| Product/ingredient name | Route of exposure | Species | Result |
|--|-------------------|------------|-----------------|
| hexamethylene-1, 6-diiisocyanate oligomer (type uretdione) | skin | Guinea pig | Sensitising |
| bis(isopropyl) naphthalene | skin | Guinea pig | Not sensitizing |
| hexamethylene-1, 6-diiisocyanate homopolymer | skin | Guinea pig | Sensitising |
| | Respiratory | Guinea pig | Not sensitizing |

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SECTION 11: Toxicological information

| | | | |
|--|--------------|-----------------|----------------------------|
| 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers | skin skin | Mouse Rabbit | Sensitising Sensitising |
|--|--------------|-----------------|----------------------------|

Conclusion/Summary

Skin : May cause an allergic skin reaction.
Respiratory Mutagenicity : Based on available data, the classification criteria are not met.

| Product/ingredient name | Test | Experiment | Result |
|--|--------------|---------------------------|----------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | OECD 476 | Subject: Mammalian-Animal | Positive |
| bis(isopropyl) naphthalene | OECD 471 | Subject: Bacteria | Negative |
| | OECD 471 | Experiment: In vitro | Negative |
| hexamethylene-1,6-ddiisocyanate homopolymer | OECD 473+476 | Subject: Bacteria | Negative |
| | OECD 471 | Experiment: In vitro | Negative |
| 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers | OECD 476 | Subject: Mammalian-Animal | Negative |
| | OECD 471 | Experiment: In vitro | Negative |
| | OECD 473 | Subject: Bacteria | Negative |
| | | Experiment: In vitro | Negative |
| | | Subject: Mammalian-Animal | |

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|----------------------------|----------------------------|---------|------|----------|
| bis(isopropyl) naphthalene | Negative - Unreported - TD | Rat | - | - |

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------------------|
| hexamethylene-1,6-diisocyanate oligomer (type uretdione) | Category 3 | Not applicable. | Respiratory tract irritation |
| hexamethylene-1,6-ddiisocyanate homopolymer | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Product/ingredient name | Result |
|----------------------------|--------------------------------|
| bis(isopropyl) naphthalene | ASPIRATION HAZARD - Category 1 |

Other information : Not available.

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SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

| Product/ingredient name | Result | Species | Exposure |
|---|------------------------|---------------------------------|------------|
| aromatic polyisocyanate prepolymer n.o.s. | Acute EC50 >10000 mg/l | Bacteria | 10 minutes |
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | Acute EC50 5560 mg/l | Bacteria | 3 hours |
| bis(isopropyl) naphthalene | Acute EC50 >100 mg/l | Daphnia spec. | 48 hours |
| | Acute IC50 >1000 mg/l | Algae - Scenedesmus subspicatus | 72 hours |
| | Acute LC50 >100 mg/l | Fish | 96 hours |
| | Acute EC10 >0.15 mg/l | Algae | 72 hours |
| | Acute EC10 >0.16 mg/l | Daphnia spec. | 48 hours |
| hexamethylene-1, 6-ddiisocyanate homopolymer | Acute LC10 >0.5 mg/l | Fish | 96 hours |
| | Acute NOEC >0.013 mg/l | Daphnia spec. | 21 days |
| | Acute EC50 >10000 mg/l | Bacteria | 3 hours |
| | Acute EC50 >100 mg/l | Daphnia spec. | 48 hours |
| | Acute IC50 >1000 mg/l | Algae - Scenedesmus subspicatus | 72 hours |
| | Acute LC50 >100 mg/l | Fish | 96 hours |

Conclusion/Summary : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|-----------|------------------------------|------|----------|
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | OECD 302C | 18 % - Not readily - 28 days | - | - |
| | OECD 301C | 1 % - Not readily - 28 days | - | - |
| hexamethylene-1, 6-ddiisocyanate homopolymer | OECD 301C | 2 % - Not readily - 28 days | - | - |

Conclusion/Summary : Based on available data, the classification criteria are not met.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-----------------------------|-------------------|------------------|
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | Fresh water 0.25 days, 23°C | 50%; 0.03 day(s) | Not readily |
| bis(isopropyl) naphthalene | Fresh water 2.5 days, 20°C | >70%; < 28 day(s) | Readily |
| hexamethylene-1, 6-ddiisocyanate homopolymer | Fresh water 0.32 days, 23°C | 50%; 0.49 day(s) | Not readily |

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

| Product/ingredient name | LogPow | BCF | Potential |
|---|--------|----------------|-----------|
| 2-ethylhexyl (3-isocyanatomethylphenyl)- carbamate | 5,6 | - | high |
| propylene carbonate | 0,08 | - | low |
| hexamethylene-1, 6-diisocyanate oligomer (type uretdione) | - | 788 | high |
| bis(isopropyl) naphthalene | >4 | 1862,087136662 | high |
| hexamethylene-1, 6-ddiisocyanate homopolymer | 8,38 | 706 | high |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Non-volatile.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods

Product

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

Hazardous waste : Yes.

Disposal considerations : Do not allow to enter drains or watercourses. Residues in empty containers should be neutralised with a decontaminant (see section 6).
Dispose of according to all federal, state and local applicable regulations.
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information, contact your local waste authority.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

| Waste code | Waste designation |
|------------|---|
| 08 01 11 * | waste paint and varnish containing organic solvents or other dangerous substances |

Packaging

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

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SECTION 13: Disposal considerations

- Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|---------------------------------|----------------|----------------|----------------|----------------|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| Additional information | - | - | - | - |

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture : 2004/42/EC - IIA/i: 500g/l (2010). ≤ 160g/l VOC.

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SECTION 15: Regulatory information

Europe inventory : Not determined.

| Product/ingredient name | Carcinogenic effects | Mutagenic effects | Developmental effects | Fertility effects |
|-----------------------------------|----------------------|-------------------|-----------------------|----------------------------|
| iris(2-methoxyethoxy) vinylsilane | - | - | - | Repr. 2, H361f (Fertility) |

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

References : EH40/2005 Workplace exposure limits
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

CN code : 3208 90 91

International lists

National inventory

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Japan : Not determined.
Malaysia : Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
United States : Not determined.

15.2 Chemical Safety Assessment : No Chemical Safety Assessment has been carried out.

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SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

- : ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

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

| Classification | Justification |
|---|------------------------------------|
| Skin Sens. 1, H317 Aquatic Chronic 3, H412 | Expert judgment Expert judgment |

Full text of abbreviated H statements

| | |
|-------------------|---|
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H361f (Fertility) | Suspected of damaging fertility. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

Full text of classifications [CLP/GHS]

| | |
|----------------------------|--|
| Acute Tox. 3, H331 | ACUTE TOXICITY (inhalation) - Category 3 |
| Acute Tox. 4, H332 | ACUTE TOXICITY (inhalation) - Category 4 |
| Aquatic Chronic 1, H410 | LONG-TERM AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 3, H412 | LONG-TERM AQUATIC HAZARD - Category 3 |
| Asp. Tox. 1, H304 | ASPIRATION HAZARD - Category 1 |
| Eye Irrit. 2, H319 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 |
| Repr. 2, H361f (Fertility) | TOXIC TO REPRODUCTION (Fertility) - Category 2 |
| Skin Irrit. 2, H315 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1, H317 | SKIN SENSITIZATION - Category 1 |
| STOT SE 3, H335 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |

- Date of printing : 27/05/2016
- Date of issue/ Date of revision : 2/05/2016
- Date of previous issue : No previous validation
- Version : 1

Notice to reader

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.