



Polyurethane Odourless Waterproofing Coating - Top 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

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Version: 0.01

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

Cactus Industrial Limited
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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 1.6 for the full text of the H statements declared above.

See Section 1.1 for more detailed information on health effects and symptoms.

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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-diisocyanate 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	R53	Aquatic Chronic 1, H410	
3-Isocyanatomethyl-3, 5,5-trimethylcyclohexyl isocyanate, oligomers	CAS: 931-274-8 CAS: 28182-81-2 EC: 500-125-5	≥1 - <3	R43	Acute Tox. 4, H332	[1][2]
tris(2-methoxyethoxy) vinylsilane	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]
	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-oxylhexyl)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	-
	Soil	0.19 mg/kg dwt	-
hexamethylene-1,6-diiisocyanate homopolymer	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-diisocyanate homopolymer	LC50 Inhalation Dusts and mists	Rat - Female	390 mg/m ³	4 hours
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.01 mg/l	4 hours
tris(2-methoxyethoxy) vinylsilane	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	2960 mg/kg	-

Conclusion/Summary

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

Acute toxicity estimates

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-diisocyanate 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-diisocyanate 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	-

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-diisocyanate oligomer (type uretdione)	skin	Guinea pig	Sensitising
bis(isopropyl) naphthalene	skin	Guinea pig	Not sensitizing
	skin	Guinea pig	Sensitising
hexamethylene-1, 6-diisocyanate homopolymer	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
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Conclusion/Summary

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

Mutagenicity

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	
		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
	Acute EC50 5560 mg/l	Bacteria	3 hours
hexamethylene-1, 6-diisocyanate oligomer (type uretdione)	Acute EC50 >100 mg/l	Daphnia spec.	48 hours
	Acute IC50 >1000 mg/l	Algae - Scenedesmus subspicatus	72 hours
bis(isopropyl) naphthalene	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
	Acute LC10 >0.5 mg/l	Fish	96 hours
hexamethylene-1, 6-ddiisocyanate homopolymer	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	LogP _{ow}	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 spilled 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
tris(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 H315 H317 H319 H331 H332 H335 H361f (Fertility) H410 H412	May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. Harmful if inhaled. May cause respiratory irritation. Suspected of damaging fertility. Very toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
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Full text of classifications [CLP/GHS]

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