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

1.1 Product identifier

Trade name : URALANE® 5774-1 A US

Unique Formula Identifier (UFI) : A5QS-W03Q-V00N-XY42

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

Use of the Substance/Mixture : Component of a Polyurethane System.

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe) BV
Address : Grijpenlaan 18
3300 Tienen
Belgium
Telephone : +41 61 299 20 41
Telefax : +41 61 299 20 40

E-mail address of person responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com

1.4 Emergency telephone

Emergency telephone : Centres Antipoison et de Toxicovigilance:
ANGERS: 02 41 48 21 21
BORDEAUX: 05 56 96 40 80
LILLE: 0 825 812 822
LYON: 04 72 11 69 11
MARSEILLE 04 91 75 25 25
NANCY: 03 83 32 36 36
PARIS: 01 40 05 48 48
RENNES: 02 99 59 22 22
STRASBOURG: 03 88 37 37 37
TOULOUSE: 05 61 77 74 47
EUROPE: +32 35 75 1234
France ORFILA: +33(0)145425959
ASIA: +65 6336-6011
China: +86 20 39377888
+86 532 83889090
India: + 91 22 42 87 5333
Australia: 1800 786 152
New Zealand: 0800 767 437
USA: +1 800-424-9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Hazardous ingredients which must be listed on the label:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-

methylenebis[4-isocyanatocyclohexane]
2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]
formaldehyde

Additional Labeling

"As from 24 August 2023 adequate training is required before industrial or professional use."

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]	67837-35-8 Polymer	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373	>= 50 - < 70
2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]	54954-83-5 Polymer	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373	>= 20 - < 30
formaldehyde	50-00-0 200-001-8 605-001-00-5 01-2119488953-20	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1B; H314	< 0,1

		Eye Dam. 1; H318 Skin Sens. 1; H317 Muta. 2; H341 Carc. 1B; H350 specific concentration limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 5 - < 25 % Eye Irrit. 2; H319 5 - < 25 % STOT SE 3; H335 >= 5 % Skin Sens. 1; H317 >= 0,2 % Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 5 - < 25 % Eye Irrit. 2; H319 5 - < 25 % STOT SE 3; H335 >= 5 % Skin Sens. 1; H317 >= 0,2 %	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : Move out of dangerous area.
Do not leave the victim unattended.
Get medical attention immediately if symptoms occur.
Show this material safety data sheet to the doctor in attendance.

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.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
First Aid responders should pay attention to self-protection and use the recommended protective clothing

If inhaled : If breathed in, move person into fresh air.
Call a physician or poison control centre immediately.
Keep patient warm and at rest.
Keep respiratory tract clear.
If breathing is difficult, give oxygen.

If breathing is irregular or stopped, administer artificial respiration.
If unconscious, place in recovery position and seek medical advice.
Consult a physician immediately if symptoms such as shortness of breath or asthma are observed.
A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons.
The exposed person may need to be kept under medical surveillance for 48 hours.
LC50 (rat) : ca. 490 mg/m³ (4 hours) : using experimentally produced respirable aerosol having aerodynamic diameter <5microns.
Methods used to generate the exposure concentrations in the animal studies use extreme laboratory conditions and does not represent actual exposure conditions of the material in the workplace, storage, transportation or expected use on the market due to the very low vapor pressure. Therefore, these test results cannot be used to for hazard classification of the material. Rather, an acute toxicity estimate is calculated based on weight of evidence and expert judgement and is used to justify a modified classification for acute inhalation toxicity.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before reuse.
Thoroughly clean shoes before reuse.
Call a physician if irritation develops or persists.
An MDI study has demonstrated that a polyglycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Protect unharmed eye.
Keep eye wide open while rinsing.
Seek medical advice.

If swallowed : Gently wipe or rinse the inside of the mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Keep respiratory tract clear.
Keep at rest.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Severe allergic skin reactions, bronchiospasm and

anaphylactic shock

Risks : This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation.
Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing.
The onset of the respiratory symptoms may be delayed for several hours after exposure.
A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons.

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Foam
Carbon dioxide (CO2)
Dry powder

Unsuitable extinguishing media : Water may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
The pressure in sealed containers can increase under the influence of heat.

Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Specific extinguishing methods : Cool containers/tanks with water spray.

Further information : Standard procedure for chemical fires.
Due to reaction with water producing CO2-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Immediately evacuate personnel to safe areas.
Use personal protective equipment.
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
Ensure adequate ventilation.
Keep people away from and upwind of spill/leak.
Only qualified personnel equipped with suitable protective equipment may intervene.
For additional precautions and advice on safe handling, see section 7.
Never return spills in original containers for re-use.
Make sure that there is a sufficient amount of neutralizing/ absorbent material near the storage area.
The danger areas must be delimited and identified using relevant warning and safety signs.
Treat recovered material as described in the section "Disposal considerations".
For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
Do not allow material to contaminate ground water system.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean-up methods - small spillage
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
Neutralize small spillages with decontaminant.
The compositions of liquid decontaminants are given in Section 16.
Remove and dispose of residues.
Clean-up methods - large spillage
If the product is in its solid form:
Spilled MDI flakes should be picked up carefully.
The area should be vacuum cleaned to remove remaining dust particles completely.
If the product is in its liquid form:
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Leave to react for at least 30 minutes.
Shovel into open-top drums for further decontamination.
Wash the spillage area with water.
Test atmosphere for MDI vapour.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 1 for emergency contact information., For personal protection see section 8., For disposal considerations see section 13., The compositions of liquid decontaminants are given in Section 16.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Local/Total ventilation : Use only with adequate ventilation.
Advice on safe handling : For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapors or spray mist.
Do not breathe vapors/dust.
Do not swallow.

Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Keep container closed when not in use.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.
Medical supervision of all employees who handle or come in contact with respiratory sensitisers is recommended.
Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.
Industrial use of aprotic polar solvents for cleaning can release hazardous primary aromatic amines (>0.1%)
Sudden Release of Pressure Hazard

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Observe label precautions. Protect from moisture. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
formaldehyde	50-00-0	VME	0,3 ppm 0,37 mg/m3	FR VLE

	Further information: Carcinogenic category 1B - Probably carcinogenic to humans, Mutagenic category 2 - Possibly mutagenic to humans, Skin sensitisation, Regulatory binding exposure limits			
		VLCT (VLE)	0,6 ppm 0,74 mg/m3	FR VLE
	Further information: Carcinogenic category 1B - Probably carcinogenic to humans, Mutagenic category 2 - Possibly mutagenic to humans, Skin sensitisation, Regulatory binding exposure limits			
		STEL	0,6 ppm 0,74 mg/m3	2004/37/EC
	Further information: Dermal sensitisation, Carcinogens or mutagens			
		TWA	0,3 ppm 0,37 mg/m3	2004/37/EC
	Further information: Dermal sensitisation, Carcinogens or mutagens			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
formaldehyde	Workers	Inhalation	Long-term systemic effects	9 mg/m3
	Workers	Inhalation	Long-term local effects	0,375 mg/m3
	Workers	Inhalation	Acute local effects	0,75 mg/m3
	Workers	Dermal	Long-term systemic effects	240 mg/kg bw/day
	Workers	Dermal	Long-term local effects	0,037 mg/cm2
	Consumers	Inhalation	Long-term systemic effects	3,2 mg/m3
	Consumers	Inhalation	Long-term local effects	0,1 mg/m3
	Consumers	Dermal	Long-term systemic effects	102 mg/kg bw/day
	Consumers	Dermal	Long-term local effects	0,012 mg/cm2
	Consumers	Oral	Long-term systemic effects	4,1 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Siloxanes and silicones, di-Me, reaction products with silica	Fresh water sediment	> 100 mg/kg
	Remarks:Assessment Factors	
	Soil	23 mg/kg
	Remarks:Assessment Factors	

8.2 Exposure controls

Personal protective equipment

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 or dusts.
Chemical splash goggles.
Equipment should conform to EN 166
Always wear eye protection when the potential for inadvertent

eye contact with the product cannot be excluded.
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Material	:	Neoprene
Break through time	:	>= 480 min
Glove thickness	:	>= 0,5 mm

Material	:	Nitrile rubber
Break through time	:	>= 480 min
Glove thickness	:	>= 0,35 mm

Material	:	butyl-rubber
Break through time	:	>= 480 min
Glove thickness	:	>= 0,5 mm

Material	:	Fluorinated rubber
Break through time	:	>= 480 min
Glove thickness	:	>= 0,4 mm

Remarks : Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials which may be hazardous in contact with skin.

Use chemical resistant gloves classified under Standard EN374: protective gloves against chemicals and microorganisms. Examples of glove materials that might provide suitable protection include: Butyl rubber, Chlorinated polyethylene, Polyethylene, Ethyl vinyl alcohol copolymers laminated (“EVAL”), Polychloroprene (Neoprene*), Nitrile/butadiene rubber (“nitrile” or “NBR”), Polyvinyl chloride (“PVC” or “vinyl”), Fluoroelastomer (Viton*).

When prolonged or frequently repeated contact may occur, a glove with protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended.

When only brief contact is expected, a glove with protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended.
Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to : other chemicals that may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as instructions/specifications provided by the glove supplier The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. By industrial use of aprotic polar solvents for cleaning : Butyl rubber (0.7mm),

		Nitrile rubber (0.4mm), Chloroprene (0.5mm)
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. Recommended: Overall (preferably heavy cotton) or Tyvek-Pro Tech 'C' , Tyvek Pro 'F' disposable coverall. Equipment should conform to EN 14605
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. In emergency, non-routine and unknown exposure situations, including confined space entries, a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA)or a full facepiece pressure demand supplied air respirator (SAR) with auxiliary self-contained air supply, should be used.
Protective measures	:	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Ensure that eye flushing systems and safety showers are located close to the working place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	paste
Color	:	off-white
Odor	:	slight
Odor Threshold	:	No data is available on the product itself.
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	No data is available on the product itself.
Flammability	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Flash point	:	> 200 °C Method: Pensky-Martens closed cup

Autoignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	No data is available on the product itself.
pH	:	substance/mixture reacts with water
Viscosity	:	No data is available on the product itself.
Solubility(ies)		
Water solubility	:	Water reactive
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Vapor pressure	:	< 1 hPa (20 °C)
Density	:	1,1 - 1,25 g/cm3 (20 °C)
Relative density	:	No data is available on the product itself.
Relative vapor density	:	No data is available on the product itself.
Particle characteristics	:	No data is available on the product itself.

9.2 Other information

No data is available on the product itself.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Reaction with water (moisture) produces CO2-gas.
Exothermic reaction with materials containing active hydrogen groups.
The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents.
MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface.
A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.
Exposure to air or moisture over prolonged periods.

10.5 Incompatible materials

Materials to avoid : Acids
Amines
Bases
Metals
water

10.6 Hazardous decomposition products

Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if inhaled.

Product:

Acute inhalation toxicity : Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.
Remarks: Methods used to generate the exposure concentrations in the animal studies use extreme laboratory conditions and does not represent actual exposure conditions of the material in the workplace, storage, transportation or expected use on the market due to the very low vapor pressure. Therefore, these test results cannot be used to for hazard classification of the material. Rather, an acute toxicity estimate is calculated based on weight of evidence and expert judgement and is used to justify a modified classification for acute inhalation toxicity.

Acute toxicity estimate: 1,97 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Acute oral toxicity : LD50 (Rat, male and female): > 2 000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC50 (Rat, male and female): 431.18 mg/m3
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): > 9 400 mg/kg
Remarks: Information given is based on data obtained from similar substances.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Acute oral toxicity : LD50 (Rat, male): > 10 000 mg/kg
Method: OECD Test Guideline 401
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC50 (Rat, male and female): Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9 400 mg/kg
Method: OECD Test Guideline 402
Remarks: Information given is based on data obtained from similar substances.

formaldehyde:

Acute oral toxicity : LD50 (Rat, male): 640 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 463 ppm
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
GLP: yes
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 270 mg/kg
Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Causes skin irritation.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404

Result : Irritating to skin.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Irritating to skin.
Remarks : Information given is based on data obtained from similar substances.

formaldehyde:

Species : Rabbit
Assessment : Causes burns.
Method : OECD Test Guideline 404
Result : Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species : Rabbit
Assessment : Irritating to eyes.
Method : OECD Test Guideline 405
Result : Irritating to eyes.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Species : Rabbit
Result : Mild eye irritation
Remarks : Information given is based on data obtained from similar substances.

formaldehyde:

Assessment : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Exposure routes : Skin
Species : Guinea pig
Assessment : May cause sensitisation by skin contact.

Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Respiratory Tract
Species	:	Guinea pig
Assessment	:	May cause sensitisation by inhalation.
Result	:	May cause sensitisation by inhalation.
Assessment	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled., May cause an allergic skin reaction.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Exposure routes	:	Skin
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	May cause sensitisation by skin contact.
Remarks	:	Information given is based on data obtained from similar substances.
Exposure routes	:	Respiratory Tract
Species	:	Guinea pig
Result	:	May cause sensitisation by inhalation.
Remarks	:	Information given is based on data obtained from similar substances.
Assessment	:	May cause sensitization by inhalation and skin contact.

formaldehyde:

Exposure routes	:	Skin
Species	:	Guinea pig
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans
Method	:	OECD Test Guideline 406
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans
Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Respiratory Tract
Species	:	Mouse
Assessment	:	Did not cause sensitisation on laboratory animals.
Result	:	Did not cause sensitisation on laboratory animals.
Assessment	:	May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Rat (male)
Cell type: Somatic
Application Route: Inhalation
Exposure time: 3 Weeks
Method: OECD Test Guideline 474
Result: negative

Test Type: comet assay
Species: Rat (male)
Cell type: Liver cells
Application Route: inhalation (dust/mist/fume)
Dose: 2.5/4.9/12 mg/m3
Method: OECD Test Guideline 489
Result: negative

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m3
Method: OECD Test Guideline 474
Result: negative
Remarks: Information given is based on data obtained from similar substances.

formaldehyde:

Genotoxicity in vitro : Test Type: unscheduled DNA synthesis assay
Result: positive

Test Type: unscheduled DNA synthesis assay
Result: positive

Test Type: gene mutation test
Test system: Chinese hamster lung cells
Concentration: 0, 3.75, 7.5, 15 µg/mL
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 476
Result: positive

Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: without metabolic activation

Method: OECD Test Guideline 471
Result: positive

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Cell type: Germ + somatic
Result: Positive results were obtained in some in vivo tests.

Test Type: in vivo assay
Species: Rat (male)
Application Route: inhalation (vapor)
Dose: 0.7/2/5.8/9.1 ppm
Result: negative

Test Type: in vivo assay
Species: Rat (male)
Application Route: inhalation (vapor)
Dose: 0.7/2/5.8/9.1 ppm
Result: negative

Test Type: in vivo assay
Species: Rat (male)
Application Route: inhalation (gas)
Dose: 0.7/2/5.8/9.1/15.2 ppm
Result: positive

Germ cell mutagenicity-Assessment : Positive result(s) from in vivo non-mammalian somatic cell mutagenicity tests, supported by positive results from in vitro mutagenicity assays.

Carcinogenicity

Suspected of causing cancer.

Product:

Remarks : Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in a chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m3), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m3 and no effects at 0.2 mg/m3. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Remarks : Industrial use of aprotic polar solvents for cleaning can

release hazardous primary aromatic amines (>0.1%)
Based on animal studies, primary aromatic amines are considered as potential carcinogen to humans. Some of those chemicals are proven carcinogens to humans
Provided the recommended personal protective equipment and hygiene measures are applied, no adverse effects to human health are to be expected

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species	:	Rat, female
Application Route	:	Inhalation
Exposure time	:	24 month(s)
Activity duration	:	17 h
Dose	:	0, 0.2, 0.7, 2.1 mg/m3 mg/m³
Frequency of Treatment	:	5 days/week
NOEL	:	0,7 mg/m³
LOAEL	:	0,23 mg/m³
Result	:	positive
Target Organs	:	Lungs
Carcinogenicity - Assessment	:	Suspected human carcinogens

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Species	:	Rat, male and female
Application Route	:	Inhalation
Exposure time	:	24 month(s)
Dose	:	1 mg/m³
Frequency of Treatment	:	5 daily
Method	:	OECD Test Guideline 453
Result	:	positive
Target Organs	:	Lungs
Remarks	:	Information given is based on data obtained from similar substances.
Carcinogenicity - Assessment	:	Suspected human carcinogens

formaldehyde:

Species	:	Rat, male
Application Route	:	Inhalation
Exposure time	:	24 month(s)
Dose	:	6 ppm
Frequency of Treatment	:	6 hour
Result	:	positive
Carcinogenicity - Assessment	:	Sufficient evidence of carcinogenicity in inhalation studies with animals

Reproductive toxicity

Not classified due to lack of data.

Components:

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Effects on fetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: NOAEL: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects
Remarks: Information given is based on data obtained from similar substances.

formaldehyde:

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: inhalation (gas)
Dose: 2/5/10 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOAEC: 5 ppm
Developmental Toxicity: NOAEC: 10 ppm
Method: OECD Test Guideline 414
Result: No teratogenic effects

Test Type: Pre-natal
Species: Dog, female
Application Route: Oral
Dose: 3.1 and 9.4 mg/kg bw/day
Duration of Single Treatment: 50 d
General Toxicity Maternal: LOAEL: > 9,4 mg/kg body weight
Developmental Toxicity: LOAEL: > 9,4 mg/kg body weight
Method: OECD Test Guideline 414

STOT-single exposure

May cause respiratory irritation.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : May cause respiratory irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.
Remarks : Information given is based on data obtained from similar substances.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Exposure routes	:	inhalation (dust/mist/fume)
Target Organs	:	Respiratory system
Assessment	:	May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Assessment	:	May cause damage to organs through prolonged or repeated exposure.
Remarks	:	Information given is based on data obtained from similar substances.

Repeated dose toxicity

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species	:	Rat, female
LOEC	:	1 mg/m3
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	2 years 17 h
Number of exposures	:	5 days/week
Dose	:	0, 0.2, 0.7, 2.1 mg/m3
Method	:	Chronic toxicity
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Species	:	Rat, male and female
NOEC	:	0,2 mg/m3
Exposure time	:	2 yr
Number of exposures	:	5 d
Method	:	OECD Test Guideline 453
Remarks	:	Information given is based on data obtained from similar substances.

formaldehyde:

Species	:	Rat, male and female
NOAEL	:	82 mg/kg
Application Route	:	oral (drinking water)
Exposure time	:	103 Weeks
Number of exposures	:	7 days/week
Dose	:	5/25/125 mg/kg bw/day

Method : OECD Test Guideline 453
Target Organs : Gastrointestinal tract, Stomach

Aspiration toxicity

Not classified due to lack of data.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 9 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: yes

Toxicity to microorganisms	:	EC50 (activated sludge): > 1 000 mg/l Exposure time: 3 h Test Type: static test Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Toxicity to soil dwelling organisms	:	NOEC: >= 1 000 mg/kg Exposure time: 336 h Species: Eisenia fetida (earthworms)
Plant toxicity	:	EC50: >1000 milligram per kilogram Exposure time: 14 d Species: Avena sativa (oats) EC50: >1000 milligram per kilogram Exposure time: 14 d Species: Lactuca sativa (lettuce)

Ecotoxicology Assessment

Acute aquatic toxicity	:	Toxic to aquatic life.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 1 000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 Remarks: Information given is based on data obtained from similar substances.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 000 mg/l Exposure time: 24 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202 Remarks: Information given is based on data obtained from similar substances.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from

similar substances.

formaldehyde:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 24,1 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5,8 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 4,89 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

EC50 (Desmodesmus subspicatus (green algae)): 3,48 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 20,4 mg/l
Exposure time: 120 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,04 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Fresh water
Method: OECD Test Guideline 211

12.2 Persistence and degradability

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge, non-adapted
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Test substance: Fresh water

Stability in water : Degradation half life (DT50): 20 hrs (25 °C)
Remarks: Fresh water

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Biodegradability : Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: Inherent Biodegradability: Modified MITI Test (II)

formaldehyde:

Biodegradability : Test Type: anaerobic
Inoculum: activated sludge
Concentration: 1 360 mg/l
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 4 d
Test substance: Fresh water

Test Type: aerobic
Inoculum: Sewage (STP effluent)
Result: Readily biodegradable.
Biodegradation: 99 %
Related to: Dissolved organic carbon (DOC)
Exposure time: 28 d
Method: OECD Test Guideline 303A
Test substance: Fresh water

Biochemical Oxygen Demand (BOD) : 0,33 - 1,07 mg/l
Incubation time: 5 d

Chemical Oxygen Demand (COD) : 1.07 mgO2/g

12.3 Bioaccumulative potential

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 28 d
Concentration: 0.08 µg/l
Bioconcentration factor (BCF): 200
Method: OECD Test Guideline 305
Remarks: Bioaccumulation is unlikely.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Bioaccumulation is unlikely.

formaldehyde:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): < 1
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 0,35 (25 °C)

12.4 Mobility in soil

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Distribution among environmental compartments : log Koc: 4,5
Method: QSAR

Stability in soil : Soil temperature: 22 °C
Dissipation time: 24 h
Method: OECD Test Guideline 307

formaldehyde:

Distribution among environmental compartments : Koc: 15,9, log Koc: 1,202
Method: Calculation method

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : Not regulated as dangerous goods
ADR : Not regulated as dangerous goods
RID : Not regulated as dangerous goods
IMDG : Not regulated as dangerous goods
IATA : Not regulated as dangerous goods

14.2 UN proper shipping name

ADN : Not regulated as dangerous goods
ADR : Not regulated as dangerous goods
RID : Not regulated as dangerous goods
IMDG : Not regulated as dangerous goods
IATA : Not regulated as dangerous goods

14.3 Transport hazard class(es)

ADN : Not regulated as dangerous goods
ADR : Not regulated as dangerous goods
RID : Not regulated as dangerous goods
IMDG : Not regulated as dangerous goods
IATA : Not regulated as dangerous goods

14.4 Packing group

ADN : Not regulated as dangerous goods
ADR : Not regulated as dangerous goods
RID : Not regulated as dangerous goods
IMDG : Not regulated as dangerous goods
IATA (Cargo) : Not regulated as dangerous goods
IATA (Passenger) : Not regulated as dangerous goods

14.5 Environmental hazards

Not regulated as dangerous goods

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59).	:	This product does not contain substances of very high concern.
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 20: (Z,Z)-1,1,3,3-tetramethyl-1,3-bis[(1-oxooctadec-9-enyl)oxy]distannoxane Number on list 72: formaldehyde Number on list 74: 4,4'-methylenedi(cyclohexyl isocyanate) Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor. Number on list 77: 1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, formaldehyde
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.		Not applicable
Occupational Illnesses (R-461-3, France)	:	43bis

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The ingredients of this product are reported in the following inventories:

DSL	:	This product contains one or several components that are not on the Canadian DSL nor NDSL.

AIIC	:	Not in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

AICS (Australia), AIIC (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical Safety Assessment

SECTION 16: Other information

Full text of H-Statements

H301	:	Toxic if swallowed.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H341	:	Suspected of causing genetic defects.
H350	:	May cause cancer.
H351	:	Suspected of causing cancer.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure if inhaled.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Muta.	:	Germ cell mutagenicity
Resp. Sens.	:	Respiratory sensitisation
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens, mutagens or reprotoxic substances at work - Annex III
FR VLE	:	France. Occupational Exposure Limits
2004/37/EC / STEL	:	Short term exposure limit
2004/37/EC / TWA	:	Long term exposure limit
FR VLE / VME	:	Time Weighted Average
FR VLE / VLCT (VLE)	:	Short Term Exposure Limit

Further information

Other information	:	Liquid decontaminants (percentages by weight or volume) : Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 % Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 % Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2. Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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