

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

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

1.1 Product identifier

Product identifier : RFLFRAL
Product name : RAPTOR FLAMEPROOF FLAT RED
Product type : Aerosol.
Other means of identification : RFLFR/AL
Date of issue/ Date of revision : 5 August 2024
Version : 1
Date of previous issue : No previous validation

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

Identified uses : Coating component.
Uses advised against :

1.3 Details of the supplier of the safety data sheet

U-POL Limited
Denington Road
Wellingborough, Northamptonshire, NN8 2QH
+44 (0) 1933 230310
technicalsupport@u-pol.com
e-mail address of person responsible for this SDS : sds-competence@axalta.com

U-POL Netherlands
B.V. Hoorgoorddreef 15
Amsterdam, Netherlands 1101BA
+31 20 240 2216
technicalsupport@u-pol.com

1.4 Emergency telephone number

Supplier

Telephone number : +(44)-870-8200418
Hours of operation :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture
Classification according to UK CLP/GHS
Aerosol 1, H222, H229
Eye Irrit. 2, H319
STOT SE 3, H336

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

SECTION 2: Hazards identification

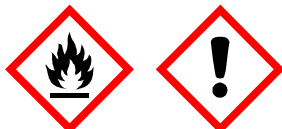
- Ingredients of unknown toxicity** : 36.9 percent of the mixture consists of component(s) of unknown acute inhalation toxicity
- Ingredients of unknown ecotoxicity** : Contains 1% of components with unknown hazards to the aquatic environment

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

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

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Contains : methyl acetate

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurised container: may burst if heated.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.

Precautionary statements

Prevention : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P261 - Avoid breathing dust or mist.
P251 - Do not pierce or burn, even after use.

Response : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage : P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal : Not applicable.

Supplemental label elements : EUH066 - Repeated exposure may cause skin dryness or cracking.
EUH205 - Contains epoxy constituents. 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.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.

Other hazards which do not result in classification : None known.

The mixture may be a skin sensitiser. It may also be a skin irritant and repeated contact may increase this effect.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

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SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Type
dimethyl ether	REACH #: 01-2119472128-37 EC: 204-065-8 CAS: 115-10-6 Index: 603-019-00-8	≥25 - ≤50	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	[1] [2]
methyl acetate	REACH #: 01-2119472128-37 EC: 201-185-2 CAS: 79-20-9 Index: 607-021-00-X	≥25 - ≤50	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119539452-40 EC: 905-588-0	≤4	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4	≤5	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	[1] [2]
octamethylcyclotetrasiloxane	REACH #: 01-2119529238-36 EC: 209-136-7 CAS: 556-67-2 Index: 014-018-00-1	<0.021	Flam. Liq. 3, H226 Repr. 2, H361f Aquatic Chronic 1, H410 (M=10)	[1] [3] [4]
			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 physical, health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT

[4] Substance meets the criteria for vPvB

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

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

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or

SECTION 4: First aid measures

- waistband. 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.
- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : No specific data.

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO₂, powders, water spray.
- 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 combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

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SECTION 5: Firefighting measures

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.

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 : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

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 (see Section 13). Preferably clean with a detergent. Avoid using solvents.

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.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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.

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

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SECTION 7: Handling and storage

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 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.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P3a	150 tonne	500 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

dimethyl ether

EH40/2005 WELs (United Kingdom (UK), 1/2020)

STEL 15 minutes: 958 mg/m³.

STEL 15 minutes: 500 ppm.

TWA 8 hours: 400 ppm.

TWA 8 hours: 766 mg/m³.

methyl acetate

EH40/2005 WELs (United Kingdom (UK), 1/2020)

STEL 15 minutes: 770 mg/m³.

STEL 15 minutes: 250 ppm.

TWA 8 hours: 616 mg/m³.

TWA 8 hours: 200 ppm.

n-butyl acetate

EH40/2005 WELs (United Kingdom (UK), 1/2020)

STEL 15 minutes: 966 mg/m³.

STEL 15 minutes: 200 ppm.

TWA 8 hours: 724 mg/m³.

TWA 8 hours: 150 ppm.

2-methoxy-1-methylethyl acetate

EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin.

STEL 15 minutes: 548 mg/m³.

TWA 8 hours: 50 ppm.

TWA 8 hours: 274 mg/m³.

STEL 15 minutes: 100 ppm.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS 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

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects	
dimethyl ether	DNEL	Long term Inhalation	471 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	1894 mg/m ³	Workers	Systemic	
methyl acetate	DNEL	Long term Oral	21.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	21.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	43 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	64 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	133 mg/m ³	General population	Local	
	DNEL	Short term Oral	203 mg/kg bw/day	General population	Systemic	
	DNEL	Short term Dermal	203 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	300 mg/m ³	Workers	Systemic	
	DNEL	Short term Inhalation	3777 mg/m ³	General population	Systemic	
	DNEL	Short term Inhalation	3777 mg/m ³	Workers	Systemic	
	DNEL	Long term Inhalation	620 mg/m ³	Workers	Local	
	Reaction mass of ethylbenzene and xylene	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
		DNEL	Long term Inhalation	221 mg/m ³	Workers	Systemic
	n-butyl acetate	DNEL	Short term Dermal	11 mg/kg bw/day	Workers	Systemic
DNEL		Long term Oral	2 mg/kg bw/day	General population	Systemic	
DNEL		Short term Oral	2 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	3.4 mg/kg bw/day	General population	Systemic	
DNEL		Short term Dermal	6 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	7 mg/kg bw/day	Workers	Systemic	
DNEL		Short term Dermal	11 mg/kg bw/day	Workers	Systemic	
DNEL		Long term Inhalation	12 mg/m ³	General population	Systemic	
DNEL		Long term Inhalation	35.7 mg/m ³	General population	Local	
DNEL		Long term Inhalation	48 mg/m ³	Workers	Systemic	
DNEL		Short term Inhalation	300 mg/m ³	General population	Local	
DNEL		Short term Inhalation	300 mg/m ³	General population	Systemic	
DNEL		Long term Inhalation	300 mg/m ³	Workers	Local	
DNEL		Short term Inhalation	600 mg/m ³	Workers	Local	
DNEL		Short term Inhalation	600 mg/m ³	Workers	Systemic	
2-methoxy-1-methylethyl acetate		DNEL	Long term Dermal	796 mg/kg bw/day	Workers	Systemic

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SECTION 8: Exposure controls/personal protection

octamethylcyclotetrasiloxane	DNEL	Long term Inhalation	275 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	550 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	6.017 ppm	Workers	Systemic
	DNEL	Long term Oral	3.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	13 mg/m ³	General population	Local
	DNEL	Long term Inhalation	13 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	73 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	73 mg/m ³	Workers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Reaction mass of ethylbenzene and xylene	Fresh water	0.327 mg/l	-
	Marine water	0.327 mg/l	-
	Sewage Treatment Plant	6.58 mg/l	-
	Fresh water sediment	12.46 mg/kg dwt	-
	Marine water sediment	12.46 mg/kg dwt	-
	Soil	2.31 mg/kg	-
n-butyl acetate	Soil	0.09 mg/kg	-
	Fresh water	0.18 mg/l	-
	Sewage Treatment Plant	35.6 mg/l	-
	Marine water	0.018 mg/l	-
	Fresh water sediment	0.981 mg/kg	-
	Marine water sediment	0.098 mg/kg	-
2-methoxy-1-methylethyl acetate	Fresh water	0.635 mg/l	-
	Marine water	0.0635 mg/l	-
	Sewage Treatment Plant	100 mg/l	-
	Fresh water sediment	3.29 mg/kg dwt	-
	Marine water sediment	0.329 mg/kg dwt	-
	Soil	0.29 mg/kg dwt	-
octamethylcyclotetrasiloxane	Sewage Treatment Plant	100 mg/l	-
	Soil	0.16 mg/kg	-
	Sediment	0.128 mg/kg	-
	Marine water	0.044 mg/l	-
	Fresh water	0.44 mg/l	-

8.2 Exposure controls

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Use safety eyewear designed to protect against splash of liquids.

Skin protection

SECTION 8: Exposure controls/personal 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 : Duration / breakthrough time: <1 hour,
 Glove material: NBR, nitrile rubber, material thickness as splash protection: at least 0.2 mm, (EN374)
 Glove material: NBR, nitrile rubber Material thickness for short-term contact: at least 0.5 mm, (EN374)
 The recommendation for the type or types of glove to use when handling this product is based on information from the following source:
 Expert judgment
 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 : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

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 : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Environmental exposure controls : Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.
Colour : Red.
Odour : Characteristic.
Odour threshold : Not available.
Melting point/freezing point : Technically not possible to measure
Initial boiling point and boiling range : Not applicable.
Flammability (solid, gas) : Not available.
Upper/lower flammability or explosive limits : Lower: 3.1%
 Upper: 26.2%
 Not available.

Flash point : Closed cup: -41°C (-41.8°F)

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SECTION 9: Physical and chemical properties

Auto-ignition temperature	: 333°C (631.4°F)	
Decomposition temperature	: Not applicable.	
pH	: Not applicable.	
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.	
Solubility in water	: Not available.	
Miscible with water	: Yes.	
Partition coefficient: n-octanol/ water	: Not applicable.	
Vapour pressure	: 213.4 kPa (1600.7 mm Hg)	
Relative density	: Not available.	
Density	: 0.838 g/cm ³	
Vapour density	: Not available.	
Explosive properties	: Not available.	
Oxidising properties	: Not available.	
Weight volatiles	: 86.2 % (w/w)	
VOC content	: 86.2 % (w/w)	(2010/75/EU)

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Heat of combustion : 23.19 kJ/g

Aerosol product

Type of aerosol : Spray

Further information Not available.

9.2.2 Other safety characteristics

Miscible with water : Yes.

Further information Not available.

room temperature (=20°C)

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	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products.
10.5 Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
10.6 Hazardous decomposition products	: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen. Not applicable

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. 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.

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

Ingestion may cause nausea, diarrhea and vomiting.

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 epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitiser and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the mixture and exposure to spray mist and vapour should be avoided.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
dimethyl ether	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	309 g/m ³	4 hours
	LD50 Dermal	Rat	>99999 mg/kg	-
	LD50 Oral	Rat	>99999 mg/kg	-
methyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
Reaction mass of ethylbenzene and xylene	LC50 Inhalation Vapour	Rat	6350 to 6700 ppm	4 hours
	LD50 Dermal	Rabbit	121236 mg/kg	-
	LD50 Oral	Rat	3523 to 4000 mg/kg	-
n-butyl acetate	LC50 Inhalation Vapour	Rat	21.1 mg/l	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
octamethylcyclotetrasiloxane	LD50 Oral	Rat	10768 mg/kg	-
	LC50 Inhalation Vapour	Rat	36 g/m ³	4 hours
	LD50 Oral	Rat - Male	4800 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
mixture	N/A	27568.9	N/A	174.0	N/A
dimethyl ether	N/A	N/A	164000	309	N/A
Reaction mass of ethylbenzene and xylene	N/A	1100	N/A	11	N/A
n-butyl acetate	10768	N/A	N/A	21.1	N/A
octamethylcyclotetrasiloxane	4800	N/A	N/A	36	N/A

Irritation/Corrosion

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SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
-	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
-	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Respiratory or skin sensitization

Mutagenicity

Carcinogenicity

Reproductive toxicity

Teratogenicity

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
methyl acetate	Category 3	-	Narcotic effects
Reaction mass of ethylbenzene and xylene	Category 3	-	Respiratory tract irritation
n-butyl acetate	Category 3	-	Narcotic effects
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
Reaction mass of ethylbenzene and xylene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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SECTION 11: Toxicological information

- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : No specific data.

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

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

- Conclusion/Summary** : Not available.
- General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
-	Acute LC50 320000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
-	Acute EC50 2.2 mg/l	Algae - Algae - <i>Selenastrum capricornutum</i>	73 hours
-	Acute LC50 1 mg/l	Daphnia - Daphnia - <i>Daphnia magna</i>	24 hours
-	Acute LC50 2.6 mg/l	Fish - Trout - <i>Oncorhynchus mykiss</i>	96 hours
-	Chronic NOEC 16 mg/l	Micro-organism - Activated sludge - <i>Activated sludge</i>	28 days
-	Acute LC50 185 ppm Marine water	Fish - Inland silverside - <i>Menidia beryllina</i>	96 hours
-	Chronic NOEC 7.9 µg/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	21 days
-	Chronic NOEC 4.4 µg/l Fresh water	Fish - Rainbow trout, donaldson trout - <i>Oncorhynchus mykiss</i> - Egg	90 days

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
dimethyl ether	0.07	-	Low
methyl acetate	0.18	-	Low
Reaction mass of ethylbenzene and xylene	3.16	-	Low
n-butyl acetate	2.3	-	Low
octamethylcyclotetrasiloxane	6.488	13400	High

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
dimethyl ether	No	N/A	N/A	No	N/A	N/A	N/A
methyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
n-butyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
2-methoxy-1-methylethyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
octamethylcyclotetrasiloxane	SVHC (Candidate)	Specified	Specified	Specified	SVHC (Candidate)	Specified	Specified

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. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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 : The classification of the product may meet the criteria for a hazardous waste.

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.

Type of packaging	Waste catalogue
	15 01 10* packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

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SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1950	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	Aerosols, flammable
14.3 Transport hazard class(es)	2 	2 	2.1 	2.1 
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID

: **Tunnel code** (D)

ADN

: The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

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.

14.7 Transport in bulk according to IMO instruments

: Not available.

SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
PBT	octamethylcyclotetrasiloxane	Candidate	-	6/27/2018
vPvB	octamethylcyclotetrasiloxane	Candidate	-	6/27/2018

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

Not applicable.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P3a

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SECTION 15: Regulatory information

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Aerosol 1, H222, H229 Eye Irrit. 2, H319 STOT SE 3, H336	On basis of test data Calculation method Calculation method

Full text of abbreviated H statements

H220	Extremely flammable gas.
H222, H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

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SECTION 16: Other information

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aerosol 1	AEROSOLS - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Gas 1A	FLAMMABLE GASES - Category 1A
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Press. Gas (Comp.)	GASES UNDER PRESSURE - Compressed gas
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Version : 1

Date of previous issue : No previous validation

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