

# SAFETY DATA SHEET

Crystic VE 679PA

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

### 1.1 Product identifier

**Product name** : Crystic VE 679PA  
**Product code** : R5004900  
**Product description** : Not available.  
**Product type** : Liquid.  
**Other means of identification** : Not available.

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

#### Identified uses

Resins.

#### Uses advised against

Not applicable.

### 1.3 Details of the supplier of the safety data sheet

Scott Bader ME  
Jebel Ali  
Dubai  
United Arab Emirates.  
Tel: +971 481 50222

**e-mail address of person responsible for this SDS** : SDS@scottbader.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

#### Supplier

**Telephone number** : +44 1865 407333 (NCEC) 24h

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

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

Flam. Liq. 3, H226  
Acute Tox. 4, H332  
Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
Repr. 2, H361d  
STOT SE 3, H335  
STOT RE 1, H372 (hearing organs)  
Aquatic Chronic 3, H412

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

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

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

### 2.2 Label elements

## SECTION 2: Hazards identification

### Hazard pictograms

:



### Signal word

: Danger

### Hazard statements

: H226 - Flammable liquid and vapour.  
H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H319 - Causes serious eye irritation.  
H332 - Harmful if inhaled.  
H335 - May cause respiratory irritation.  
H361d - Suspected of damaging the unborn child.  
H372 - Causes damage to organs through prolonged or repeated exposure.  
(hearing organs)  
H412 - Harmful to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Wear protective gloves: > 8 hours (breakthrough time): Polyvinyl alcohol (PVA), Viton®, and laminated film gloves are recommended for direct or continuous contact with UP resin. Thickness : 0.4mm. Never use natural rubber latex surgical gloves as they are very permeable to chemicals and may cause allergic reactions in sensitive persons. Gloves should be inspected before each use and removed and replaced immediately if there is any sign of degradation, penetration, or gross contamination.. Wear protective clothing. Wear eye or face protection: Recommended: safety glasses with side-shields.. Wear hearing protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

#### Response

: IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

#### Storage

: Store in a well-ventilated place. Keep container tightly closed.

#### Disposal

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

### Hazardous ingredients

: styrene  
cobalt bis(2-ethylhexanoate)  
maleic anhydride

### Supplemental label elements

: Not applicable.

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

: Not applicable.

### Special packaging requirements

#### Containers to be fitted with child-resistant fastenings

: Not applicable.

#### Tactile warning of danger

: Not applicable.

## 2.3 Other hazards

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## SECTION 2: Hazards identification

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
styrene	REACH #: 01-2119457861-32 EC: 202-851-5 CAS: 100-42-5 Index: 601-026-00-0	≥40 - ≤50	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT SE 3, H335 STOT RE 1, H372 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Inhalation (gases)] = 2770 ppm	[1]
cobalt bis(2-ethylhexanoate)	REACH #: 01-2119524678-29 EC: 205-250-6 CAS: 136-52-7	<0.3	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Repr. 1B, H360F Aquatic Acute 1, H400 Aquatic Chronic 3, H412	M [Acute] = 1	[1]
N,N-dimethylaniline	REACH #: 01-2119950342-44 EC: 204-493-5 CAS: 121-69-7 Index: 612-016-00-0	≤0.18	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Carc. 2, H351 Aquatic Chronic 2, H411	ATE [Oral] = 100 mg/kg ATE [Dermal] = 300 mg/kg ATE [Inhalation (vapours)] = 3 mg/l	[1]
1,4-naphthoquinone	EC: 204-977-6 CAS: 130-15-4	<0.1	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 190 mg/kg ATE [Inhalation (vapours)] = 0.046 mg/l M [Acute] = 10 M [Chronic] = 10	[1]
1,4-dihydroxybenzene	REACH #: 01-2119524016-51 EC: 204-617-8 CAS: 123-31-9 Index: 604-005-00-4	<0.1	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1B, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 375 mg/kg M [Acute] = 10 M [Chronic] = 1	[1]
maleic anhydride	REACH #: 01-2119472428-31 EC: 203-571-6 CAS: 108-31-6	≤0.1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	ATE [Oral] = 400 mg/kg Skin Sens. 1, H317: C ≥ 0.001%	[1]

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### SECTION 3: Composition/information on ingredients

	Index: 607-096-00-9		Skin Sens. 1A, H317 STOT RE 1, H372 (respiratory system) (inhalation) EUH071		
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≤0.1	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≤0.1	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
			<b>See Section 16 for the full text of the H statements declared above.</b>		

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

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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 waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. 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. 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.

## SECTION 4: First aid measures

**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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

### 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  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

## SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

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

### 6.3 Methods and material for containment and cleaning up

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

### 6.4 Reference to other sections

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

## 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

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools.

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## SECTION 7: Handling and storage

### Advice on general occupational hygiene

Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Seveso Directive - Reporting thresholds

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

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

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
2-methoxy-1-methylethyl acetate	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
1-methoxy-2-propanol	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 100 ppm 8 hours. TWA: 375 mg/m <sup>3</sup> 8 hours. STEL: 150 ppm 15 minutes. STEL: 568 mg/m <sup>3</sup> 15 minutes.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance

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**SECTION 8: Exposure controls/personal protection**

documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

Product/ingredient name	Type	Exposure	Value	Population	Effects	
styrene	DNEL	Short term Inhalation	289 mg/m <sup>3</sup>	Workers	Systemic	
	DNEL	Short term Inhalation	306 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Long term Dermal	406 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	85 mg/m <sup>3</sup>	Workers	Systemic	
	DNEL	Short term Inhalation	174.25 mg/m <sup>3</sup>	General population [Consumers]	Systemic	
	DNEL	Short term Inhalation	182.75 mg/m <sup>3</sup>	General population [Consumers]	Local	
	DNEL	Long term Dermal	343 mg/kg bw/day	General population [Consumers]	Systemic	
	DNEL	Long term Inhalation	10.2 mg/m <sup>3</sup>	General population [Consumers]	Systemic	
	DNEL	Long term Oral	2.1 mg/kg bw/day	General population [Consumers]	Systemic	
	DNEL	Long term Oral	7.7 µg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	1 mg/m <sup>3</sup>	General population	Local	
	DNEL	Long term Inhalation	1 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Short term Inhalation	10 mg/m <sup>3</sup>	General population	Local	
	DNEL	Short term Inhalation	10 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Inhalation	85 mg/m <sup>3</sup>	Workers	Systemic	
	DNEL	Short term Inhalation	100 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Long term Inhalation	100 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Short term Inhalation	100 mg/m <sup>3</sup>	Workers	Systemic	
	cobalt bis(2-ethylhexanoate)	DNEL	Long term Inhalation	37 µg/m <sup>3</sup>	General population	Local
		DNEL	Long term Oral	175 µg/kg bw/day	General population	Systemic
DNEL		Long term Inhalation	235.1 µg/m <sup>3</sup>	Workers	Local	
N,N-dimethylaniline	DNEL	Long term Inhalation	0.27217391 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Dermal	0.313 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	0.626 mg/kg bw/day	Workers	Systemic	



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	DNEL	Long term Oral	0.62913 mg/kg bw/day	General population	Systemic
1,4-naphthoquinone	DNEL	Long term Inhalation	1.1037368 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	0.0329 mg/m <sup>3</sup>	Workers	Systemic
1,4-dihydroxybenzene	DNEL	Long term Dermal	64 mg/kg bw/day	General population [Human via the environment]	Systemic
	DNEL	Long term Inhalation	1.74 mg/m <sup>3</sup>	General population [Human via the environment]	Systemic
	DNEL	Long term Inhalation	0.5 mg/m <sup>3</sup>	General population [Human via the environment]	Local
	DNEL	Long term Oral	0.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	1.05 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	1.66 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.1 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
maleic anhydride	DNEL	Short term Dermal	0.04 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	0.04 mg/cm <sup>2</sup>	Workers	Local
	DNEL	Long term Dermal	0.04 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	0.04 mg/cm <sup>2</sup>	Workers	Local
	DNEL	Long term Inhalation	0.4 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	0.4 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	0.05 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Oral	0.06 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.08 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	0.081 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	0.081 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Oral	0.1 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.1 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.2 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	0.2 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	0.2 mg/m <sup>3</sup>	Workers	Local

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2-methoxy-1-methylethyl acetate	DNEL	Short term Inhalation	0.2 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	33 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	33 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Oral	36 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	275 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	320 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	550 mg/m <sup>3</sup>	Workers	Local
1-methoxy-2-propanol	DNEL	Long term Dermal	796 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	33 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	43.9 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	78 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	183 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	369 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	553.5 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Inhalation	553.5 mg/m <sup>3</sup>	Workers	Systemic

### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
styrene	Fresh water	0.028 mg/l	-
	Marine water	0.0028 mg/l	-
	Fresh water sediment	0.614 mg/kg dwt	-
	Marine water sediment	0.0614 mg/kg dwt	-
	Soil	0.2 mg/kg dwt	-
	Sewage Treatment Plant	5 mg/l	-
	1,4-dihydroxybenzene	Fresh water	0.114 µg/l
Marine water		0.0114 µg/l	-
Fresh water sediment		0.00098 mg/kg	-
Marine water sediment		0.000097 mg/kg	-
Soil		0.000129 mg/kg	-
Sewage Treatment Plant		0.71 mg/l	-
maleic anhydride		Fresh water	0.04281 mg/l
	Marine water	0.004281 mg/l	-
	Fresh water sediment	0.334 mg/kg dwt	-
	Marine water sediment	0.0334 mg/kg dwt	-
	Soil	0.0415 mg/kg dwt	-
	Sewage Treatment Plant	44.6 mg/l	-

### 8.2 Exposure controls

#### Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

## SECTION 8: Exposure controls/personal protection

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Polyvinyl alcohol (PVA), Viton®, and laminated film gloves are recommended for direct or continuous contact with UP resin. Thickness : 0.4mm. Never use natural rubber latex surgical gloves as they are very permeable to chemicals and may cause allergic reactions in sensitive persons. Gloves should be inspected before each use and removed and replaced immediately if there is any sign of degradation, penetration, or gross contamination.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type A) .Organic vapour cartridges must therefore be replaced at regular intervals to avoid breakthrough. If there is the potential for aerosol mist to be generated, then a combined organic and particulate filter (Type P) is required. Particulate filters should meet EN143. P3 types are recommended. Typically, filters should meet at least EN14387:2004.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

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** : Translucent.
- Odour** : Solvent
- Odour threshold** : Not available.

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## SECTION 9: Physical and chemical properties

<b>Melting point/freezing point</b>	: Not available.
<b>Initial boiling point and boiling range</b>	: Not available.
<b>Flammability</b>	: Not available.
<b>Lower and upper explosion limit</b>	: Not available.
<b>Flash point</b>	: Closed cup: 32°C (89.6°F)
<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not available.
<b>Viscosity</b>	: Kinematic (40°C): >40 mm <sup>2</sup> /s
<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/ water</b>	: Not applicable.
<b>Vapour pressure</b>	: Not available.
<b>Relative density</b>	: 1.1 to 1.2
<b>Vapour density</b>	: Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not applicable.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidising materials
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
styrene	LC50 Inhalation Gas.	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapour	Rat	11800 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	2650 mg/kg	-
cobalt bis(2-ethylhexanoate)	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
N,N-dimethylaniline	LC50 Inhalation Vapour	Rat	>5.1 mg/l	4 hours
	LD50 Dermal	Rabbit	1700 mg/kg	-

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## SECTION 11: Toxicological information

1,4-naphthoquinone	LD50 Oral	Rat	1120 mg/kg	-
	LC50 Inhalation Vapour	Rat	0.046 mg/l	4 hours
	LD50 Dermal	Rat	202 mg/kg	-
1,4-dihydroxybenzene	LD50 Oral	Rat	190 mg/kg	-
	LD50 Oral	Rat	375 mg/kg	-
	LD50 Dermal	Rabbit	2620 mg/kg	-
maleic anhydride	LD50 Oral	Rat	400 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-

**Conclusion/Summary** : Not available.

### 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)
Crystic VE 679PA	74683.2	224049.5	6690.1	28.1	N/A
styrene	2650	N/A	2770	11.8	N/A
N,N-dimethylaniline	100	300	N/A	3	N/A
1,4-naphthoquinone	190	N/A	N/A	0.046	N/A
1,4-dihydroxybenzene	375	N/A	N/A	N/A	N/A
maleic anhydride	400	2620	N/A	N/A	N/A
2-methoxy-1-methylethyl acetate	8532	N/A	N/A	N/A	N/A
1-methoxy-2-propanol	6600	13000	N/A	N/A	N/A

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
styrene	Eyes - Mild irritant	Human	-	50 ppm	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
1-methoxy-2-propanol	Skin - Mild irritant	Rabbit	-	500 mg	-

**Conclusion/Summary** : Not available.

### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
1,4-dihydroxybenzene	skin	Guinea pig	Not sensitizing
	skin	Mouse	Sensitising

**Conclusion/Summary** : Not available.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
1,4-dihydroxybenzene	-	Experiment: In vivo Subject: Mammalian-Animal	Positive
	-	Experiment: In vivo Subject: Bacteria	Negative

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

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## SECTION 11: Toxicological information

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
styrene	Category 3	-	Respiratory tract irritation
1,4-naphthoquinone	Category 3	-	Respiratory tract irritation
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
styrene	Category 1	-	hearing organs
maleic anhydride	Category 1	inhalation	respiratory system

### Aspiration hazard

Product/ingredient name	Result
styrene	ASPIRATION HAZARD - Category 1

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

### 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  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

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

#### Short term exposure

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## SECTION 11: Toxicological information

**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

Product/ingredient name	Result	Species	Dose	Exposure
styrene	Chronic NOAEL Dermal	Rat	615 mg/kg	-
	Chronic NOAEL Inhalation Gas.	Rat	20 ppm	8 hours
1,4-dihydroxybenzene	Sub-chronic NOAEL Dermal	Rat	>73.9 mg/kg	90 days
	Sub-chronic NOAEL Oral	Rat	20 mg/kg	90 days

**Conclusion/Summary** : Not available.

**General** : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : Suspected of damaging the unborn child.

## 11.2 Information on other hazards

### 11.2.1 Endocrine disrupting properties

Not available.

### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
styrene	Acute EC50 4.9 mg/l	Algae	72 hours
	Acute EC50 78000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 52 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 4020 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1.01 mg/l	Daphnia	21 days
	N,N-dimethylaniline	Acute EC50 5 mg/l	Daphnia - Daphnia magna
Acute IC50 340 mg/l		Algae - Desmodesmus subspicatus	96 hours
Acute LC50 65.6 mg/l		Fish - Pimephales promelas	96 hours
1,4-naphthoquinone	Acute IC50 0.011 mg/l	Algae	72 hours
	Acute EC50 0.134 mg/l	Daphnia	48 hours
1,4-dihydroxybenzene	Acute LC50 0.06 mg/l Fresh water	Fish - Pimephales promelas - Larvae	96 hours
	Chronic EC50 0.33 mg/l	Aquatic plants	72 hours
maleic anhydride	Chronic NOEC 0.019 mg/l	Aquatic plants	72 hours
	Chronic NOEC 0.0057 mg/l	Daphnia	21 days
2-methoxy-1-methylethyl acetate	Acute LC50 230 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Acute EC50 373 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours

**Conclusion/Summary** : Not available.

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## SECTION 12: Ecological information

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
1,4-naphthoquinone	-	35 % - 5 days	-	-
1,4-dihydroxybenzene	-	70 % - Readily - 14 days	-	-

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
styrene	-	-	Readily
cobalt bis(2-ethylhexanoate)	-	-	Not readily
1,4-naphthoquinone	-	-	Inherent
1,4-dihydroxybenzene	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
styrene	0.35	13.49	low
cobalt bis(2-ethylhexanoate)	-	15600	high
N,N-dimethylaniline	1.171	16	low
1,4-naphthoquinone	1.71	-	low
1,4-dihydroxybenzene	0.59	3.162	low
maleic anhydride	-2.78	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low
1-methoxy-2-propanol	<1	-	low

### Legal entity

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Not available.

### 12.7 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







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## SECTION 13: Disposal considerations

- 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.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1866	UN1866	UN1866	UN1866
14.2 UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION	RESIN SOLUTION	Resin solution
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	Yes.	No.	No.

### Additional information

- ADR/RID** : **Hazard identification number** 30  
**Limited quantity** 5 L  
**Special provisions** 640E  
**Tunnel code** (D/E)
- ADN** : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.  
**Special provisions** 640E
- IMDG** : **Emergency schedules** F-E, \_S-E\_  
**Special provisions** 223, 955
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
**Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.  
**Special provisions** A3
- 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.

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## SECTION 15: Regulatory information

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

#### 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.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

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  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 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 according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Repr. 2, H361d	Calculation method
STOT SE 3, H335	Calculation method
STOT RE 1, H372 (hearing organs)	Calculation method
Aquatic Chronic 3, H412	Calculation method

### Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
H330	Fatal if inhaled.
H331	Toxic if inhaled.

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## SECTION 16: Other information

H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H360F	May damage fertility.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

### [Full text of classifications \[CLP/GHS\]](#)

Acute Tox. 1	ACUTE TOXICITY - Category 1
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Repr. 1B	REPRODUCTIVE TOXICITY - Category 1B
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**Date of printing** : 10/02/2023

**Date of issue/ Date of revision** : 09/02/2023

**Date of previous issue** : No previous validation

**Version** : 0.01

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