

# SAFETY DATA SHEET



Crystic 2.446PA

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

### 1.1 Product identifier

**Product name** : Crystic 2.446PA  
**UFI** : 16G2-W04X-W00P-2HCN  
**Product code** : R2013200  
**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 Co Ltd,  
Wollaston.  
Northants  
NN297RL  
United Kingdom  
+44 (0)1933663100

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

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**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 UK 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 UK CLP Regulation SI 2019/720 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® fluor rubber. Wear protective clothing: Recommended: 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.. Wear eye or face protection: Recommended: chemical splash goggles and/or face shield.. 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.

### 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

#### 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.

Crystic 2.446PA

**SECTION 3: Composition/information on ingredients****3.2 Mixtures**

: Mixture

Product/ingredient name	Identifiers	%	Classification	Type
styrene	REACH #: 01-2119457861-32 EC: 202-851-5 CAS: 100-42-5 Index: 601-026-00-0	≥25 - ≤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	[1] [2]
Silica, amorphous, fumed, cryst.-free	REACH #: 01-2119379499-16 CAS: 112945-52-5	≤1	Not classified.	[2]
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≤1	Not classified.	[2]
phthalic anhydride	REACH #: 01-2119457017-41 EC: 201-607-5 CAS: 85-44-9 Index: 607-009-00-4	≤0.3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
ethanediol	EC: 203-473-3 CAS: 107-21-1 Index: 603-027-00-1	≤0.3	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	[1] [2]
cobalt bis(2-ethylhexanoate)	REACH #: 01-2119524678-29 EC: 205-250-6 CAS: 136-52-7	<0.1	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Repr. 1B, H360F Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412	[1] [2]
Paraffin waxes and Hydrocarbon waxes	REACH #: 01-2119488076-30 EC: 232-315-6 CAS: 8002-74-2	≤0.1	Not classified.	[2]
2,2' -oxybisethanol	REACH #: 01-2119457857-21 EC: 203-872-2 CAS: 111-46-6 Index: 603-140-00-6	≤0.1	Acute Tox. 4, H302	[1] [2]
N,N-dimethylaniline	REACH #: 01-2119950342-44 EC: 204-493-5 CAS: 121-69-7 Index: 612-016-00-0	<0.1	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Carc. 2, H351 Aquatic Chronic 2, H411	[1] [2]
maleic anhydride	REACH #: 01-2119472428-31 EC: 203-571-6 CAS: 108-31-6 Index: 607-096-00-9	≤0.1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372 (respiratory system) (inhalation) EUH071	[1] [2]
Naphthenic acids, copper salts	EC: 215-657-0 CAS: 1338-02-9	<0.1	Flam. Liq. 3, H226 Acute Tox. 4, H302	[1] [2]

Crystic 2.446PA

**SECTION 3: Composition/information on ingredients**

1,4-dihydroxybenzene	Index: 029-003-00-5  REACH #: 01-2119524016-51 EC: 204-617-8 CAS: 123-31-9 Index: 604-005-00-4	<0.01	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1) Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1B, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=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	Not classified.	[1] [2]
(2-methoxymethylethoxy)propanol	REACH #: 01-2119450011-60 EC: 252-104-2 CAS: 34590-94-8	≤0.1	Not classified.	[2]
methacrylic acid	REACH #: 01-2119463884-26 EC: 201-204-4 CAS: 79-41-4 Index: 607-088-00-5	≤0.1	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335	[1] [2]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≤0.1	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 (inhalation) Asp. Tox. 1, H304	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤0.1	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
aniline	REACH #: 01-2119451454-41 EC: 200-539-3 CAS: 62-53-3 Index: 612-008-00-7	<0.01	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

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

Crystic 2.446PA

## SECTION 3: Composition/information on ingredients

[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.
- 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

Crystic 2.446PA

## SECTION 4: First aid measures

### 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.
- 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.

## 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.



Crystic 2.446PA

## SECTION 6: Accidental release measures

**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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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

**Advice on general occupational hygiene** : 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****8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
styrene	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> STEL: 250 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 430 mg/m <sup>3</sup> 8 hours. STEL: 1080 mg/m <sup>3</sup> 15 minutes.
Silica, amorphous, fumed, cryst.-free	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, amorphous]</b> TWA: 2.4 mg/m <sup>3</sup> 8 hours. Form: respirable dust TWA: 6 mg/m <sup>3</sup> 8 hours. Form: inhalable dust
propane-1,2-diol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Particulate TWA: 474 mg/m <sup>3</sup> 8 hours. Form: total vapour and particulates TWA: 150 ppm 8 hours. Form: total vapour and particulates
phthalic anhydride	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser.</b> STEL: 12 mg/m <sup>3</sup> 15 minutes. TWA: 4 mg/m <sup>3</sup> 8 hours.
ethanediol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Particulate TWA: 20 ppm 8 hours. Form: Vapour STEL: 40 ppm 15 minutes. Form: Vapour TWA: 52 mg/m <sup>3</sup> 8 hours. Form: Vapour STEL: 104 mg/m <sup>3</sup> 15 minutes. Form: Vapour
cobalt bis(2-ethylhexanoate)	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [cobalt and cobalt compounds] Inhalation sensitiser.</b> TWA: 0.1 mg/m <sup>3</sup> , (as Co) 8 hours.
Paraffin waxes and Hydrocarbon waxes	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> STEL: 6 mg/m <sup>3</sup> 15 minutes. Form: Fume TWA: 2 mg/m <sup>3</sup> 8 hours. Form: Fume
2,2' -oxybisethanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 101 mg/m <sup>3</sup> 8 hours. TWA: 23 ppm 8 hours.
N,N-dimethylaniline	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 50 mg/m <sup>3</sup> 15 minutes. STEL: 10 ppm 15 minutes. TWA: 5 ppm 8 hours. TWA: 25 mg/m <sup>3</sup> 8 hours.
maleic anhydride	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser.</b> STEL: 3 mg/m <sup>3</sup> 15 minutes. TWA: 1 mg/m <sup>3</sup> 8 hours.
Naphthenic acids, copper salts	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [Copper and compounds]</b> STEL: 2 mg/m <sup>3</sup> , (as Cu) 15 minutes. Form: Dusts and Mists TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: Dusts and Mists
1,4-dihydroxybenzene	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 0.5 mg/m <sup>3</sup> 8 hours.
1-methoxy-2-propanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 560 mg/m <sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.
(2-methoxymethylethoxy)propanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b>



Crystic 2.446PA

## SECTION 8: Exposure controls/personal protection

methacrylic acid	TWA: 308 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. <b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> STEL: 143 mg/m <sup>3</sup> 15 minutes. STEL: 40 ppm 15 minutes.
xylene	TWA: 72 mg/m <sup>3</sup> 8 hours. TWA: 20 ppm 8 hours. <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-, p- or mixed isomers] Absorbed through skin.</b> STEL: 441 mg/m <sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours.
ethylbenzene	TWA: 220 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 552 mg/m <sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes.
aniline	TWA: 100 ppm 8 hours. TWA: 441 mg/m <sup>3</sup> 8 hours. <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> TWA: 1 ppm 8 hours. TWA: 4 mg/m <sup>3</sup> 8 hours.

### Biological exposure indices

Product/ingredient name	Exposure indices
xylene	<b>EH40/2005 BMGVs (United Kingdom (UK), 8/2018) [Xylene, o-, m-, p- or mixed isomers]</b> BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
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

Crystic 2.446PA

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

propane-1,2-diol	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	
	DNEL	Long term Dermal	343 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	406 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Dermal	213 mg/kg bw/day	General population [Consumers]	Systemic	
	DNEL	Long term Inhalation	50 mg/m <sup>3</sup>	General population [Consumers]	Systemic	
	DNEL	Long term Oral	85 mg/kg bw/day	General population [Consumers]	Systemic	
	DNEL	Long term Inhalation	10 mg/m <sup>3</sup>	General population [Consumers]	Local	
	DNEL	Long term Inhalation	10 mg/m <sup>3</sup>	General population	Local	
	DNEL	Long term Inhalation	10 mg/m <sup>3</sup>	Workers	Local	
	phthalic anhydride	DNEL	Long term Inhalation	50 mg/m <sup>3</sup>	General population	Systemic
		DNEL	Long term Inhalation	168 mg/m <sup>3</sup>	Workers	Systemic
DNEL		Long term Oral	5 mg/kg bw/day	General population [Consumers]	Systemic	
DNEL		Long term Oral	10 mg/kg bw/day	Workers	Systemic	
DNEL		Long term Dermal	5 mg/kg bw/day	General population [Consumers]	Systemic	
DNEL		Long term Inhalation	8.6 mg/m <sup>3</sup>	General population [Consumers]	Systemic	
DNEL		Long term Oral	5 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	5 mg/kg bw/day	General population	Systemic	
DNEL		Long term Inhalation	8.7 mg/m <sup>3</sup>	General population	Systemic	
DNEL		Long term Dermal	14 mg/kg bw/day	Workers	Systemic	
DNEL		Short term Oral	25 mg/kg bw/day	General population	Systemic	
DNEL		Long term Inhalation	49.4 mg/m <sup>3</sup>	Workers	Systemic	
ethanediol	DNEL	Long term	7 mg/m <sup>3</sup>	General	Local	

Crystic 2.446PA

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

cobalt bis(2-ethylhexanoate)	DNEL	Inhalation Long term	35 mg/m <sup>3</sup>	population Workers	Local
	DNEL	Inhalation Long term Dermal	53 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	106 mg/kg bw/day	Workers	Systemic
	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
2,2' -oxybisethanol	DNEL	Long term Inhalation	12 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	12 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	21 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	43 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	44 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	60 mg/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
	DNEL	Long term Oral	0.62913 mg/kg bw/ day	General population	Systemic
	DNEL	Long term Inhalation	1.1037368 mg/m <sup>3</sup>	Workers	Systemic
	maleic anhydride	DNEL	Short term Dermal	0.04 mg/ kg bw/day	Workers
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

Crystic 2.446PA

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

Naphthenic acids, copper salts	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
	DNEL	Short term Inhalation	0.2 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	0.16 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Oral	0.18 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.18 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.36 mg/kg bw/day	Workers	Systemic
1,4-dihydroxybenzene	DNEL	Long term Inhalation	0.63 mg/m <sup>3</sup>	Workers	Systemic
	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
1-methoxy-2-propanol	DNEL	Long term Dermal	3.33 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
(2-methoxymethylethoxy)propanol	DNEL	Long term Oral	36 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	37.2 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	121 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	283 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	308 mg/m <sup>3</sup>	Workers	Systemic

Crystic 2.446PA

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

methacrylic acid	DNEL	Long term Inhalation	6.55 mg/m <sup>3</sup>	General population [Consumers]	Local
	DNEL	Long term Inhalation	6.3 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Dermal	2.55 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	2.55 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	4.25 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	6.3 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	6.55 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	29.6 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	88 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Dermal	1 %	General population	Local
xylene	DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population [Human via the environment]	Systemic
	DNEL	Long term Dermal	125 mg/kg bw/day	General population [Human via the environment]	Systemic
	DNEL	Long term Oral	12.5 mg/kg bw/day	General population [Human via the environment]	Systemic
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population	Local
	DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Local
DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Systemic	
ethylbenzene	DNEL	Long term Oral	1.6 mg/kg	General	Systemic

Crystic 2.446PA

### SECTION 8: Exposure controls/personal protection

aniline	DNEL	Long term Inhalation	bw/day 15 mg/m <sup>3</sup>	population General population	Systemic
	DNEL	Long term Inhalation	77 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m <sup>3</sup>	Workers	Local
	DMEL	Long term Inhalation	442 mg/m <sup>3</sup>	Workers	Local
	DMEL	Short term Inhalation	884 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	2 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	4 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	7.7 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	15.4 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	-
	propane-1,2-diol	Fresh water	260 mg/l
Marine water		26 mg/l	-
Sewage Treatment Plant		20000 mg/l	-
Fresh water sediment		572 mg/kg	-
Marine water sediment		57.2 mg/kg	-
phthalic anhydride	Soil	50 mg/kg	-
	Soil	0.153 mg/kg	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0.826 mg/kg	-
maleic anhydride	Marine water sediment	0.38 mg/kg dwt	Equilibrium Partitioning
	Marine water	0.1 mg/l	-
	Fresh water	1 mg/l	-
	Marine water sediment	0.0826 mg/kg	-
	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	-
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	-
methacrylic acid	Fresh water	0.82 mg/l	-
	Marine water	0.82 mg/l	-
xylene	Fresh water	0.327 mg/l	-



Crystic 2.446PA

## SECTION 8: Exposure controls/personal protection

	Marine water	0.327 mg/l	-
	Fresh water sediment	12.46 mg/kg	-
	Marine water sediment	12.46 mg/kg	-
	Soil	2.31 mg/kg	-
	Sewage Treatment Plant	6.58 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.

#### 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: chemical splash goggles and/or face shield.

#### 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® fluor rubber

**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. Recommended: 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.

**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)

**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**

<b>Physical state</b>	: Liquid.
<b>Colour</b>	: Blue. [Transparent]
<b>Odour</b>	: Solvent
<b>Odour threshold</b>	: Not available.
<b>Melting point/freezing point</b>	: Not available.
<b>Initial boiling point and boiling range</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Flash point</b>	: Closed cup: 32°C (89.6°F)
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not applicable.
<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.

Crystic 2.446PA

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****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	-
Silica, amorphous, fumed, cryst.-free	LD50 Dermal	Rabbit	≥2000 mg/kg	-
	LD50 Oral	Rat	≥5000 mg/kg	-
propane-1,2-diol	LD50 Dermal	Rabbit	20800 mg/kg	-
	LD50 Oral	Rat	20 g/kg	-
phthalic anhydride	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat	1530 mg/kg	-
ethanediol	LD50 Oral	Rat	4700 mg/kg	-
cobalt bis(2-ethylhexanoate)	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
Paraffin waxes and Hydrocarbon waxes	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
2,2' -oxybisethanol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
N,N-dimethylaniline	LC50 Inhalation Vapour	Rat	>5.1 mg/l	4 hours
	LD50 Dermal	Rabbit	1700 mg/kg	-
	LD50 Oral	Rat	1120 mg/kg	-
maleic anhydride	LD50 Dermal	Rabbit	2620 mg/kg	-
	LD50 Oral	Rat	400 mg/kg	-
Naphthenic acids, copper salts	LD50 Oral	Rat	2 g/kg	-
1,4-dihydroxybenzene	LD50 Oral	Rat	375 mg/kg	-
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-
methacrylic acid	LD50 Oral	Rat	1060 mg/kg	-
xylene	LD50 Oral	Rat	4300 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
aniline	LC50 Inhalation Gas.	Rat	250 ppm	1 hours
	LD50 Dermal	Rat	1400 mg/kg	-
	LD50 Oral	Rat	250 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 2.446PA	N/A	N/A	6933.9	29.5	N/A
styrene	2650	N/A	2770	11.8	N/A
propane-1,2-diol	20000	20800	N/A	N/A	N/A
phthalic anhydride	1530	N/A	N/A	N/A	N/A
ethanediol	500	N/A	N/A	N/A	N/A
2,2' -oxybisethanol	500	11890	N/A	N/A	N/A
N,N-dimethylaniline	100	300	N/A	3	N/A
maleic anhydride	400	2620	N/A	N/A	N/A
Naphthenic acids, copper salts	2000	N/A	N/A	N/A	N/A
1,4-dihydroxybenzene	375	N/A	N/A	N/A	N/A
1-methoxy-2-propanol	6600	13000	N/A	N/A	N/A
methacrylic acid	1060	1100	N/A	N/A	N/A
xylene	4300	1100	N/A	11	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
aniline	250	300	125	N/A	N/A

Crystic 2.446PA

## SECTION 11: Toxicological information

### 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	-
ethanediol	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 mg	-
2,2' -oxybisethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 mg	-
	Skin - Mild irritant	Rabbit	-	555 mg	-
1-methoxy-2-propanol	Eyes - Mild irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Human	-	72 hours 112 mg l	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
xylene	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
aniline	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-

**Conclusion/Summary** : Not available.

### Sensitisation

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

**Conclusion/Summary** : Not available.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
phthalic anhydride	OECD 479 Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells	Subject: Mammalian-Animal	Negative
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.

### Teratogenicity

Crystic 2.446PA

**SECTION 11: Toxicological information****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
phthalic anhydride	Category 3	-	Respiratory tract irritation
1-methoxy-2-propanol	Category 3	-	Narcotic effects
methacrylic acid	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
styrene	Category 1	-	hearing organs
ethanediol	Category 2	oral	kidneys
maleic anhydride	Category 1	inhalation	respiratory system
xylene	Category 2	inhalation	-
ethylbenzene	Category 2	-	hearing organs
aniline	Category 1	-	-

**Aspiration hazard**

Product/ingredient name	Result
styrene	ASPIRATION HAZARD - Category 1
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	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

Crystic 2.446PA

## SECTION 11: Toxicological information

**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

**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
phthalic anhydride	Chronic NOAEL Oral	Rat	500 mg/kg	-
	Sub-chronic NOAEL Oral	Rat	1.5 mg/kg	-
Paraffin waxes and Hydrocarbon waxes	Sub-chronic NOAEL Dermal	Rat	>73.9 mg/kg	90 days
	Sub-chronic NOAEL Oral	Rat	20 mg/kg	90 days
1,4-dihydroxybenzene	Chronic NOAEL Inhalation Gas.	Rat	300 ppm	90 days
	Chronic NOAEL Inhalation Gas.	Rat	100 ppm	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.

**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 - Diatom - Skeletonema costatum	96 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 52 mg/l Marine water	Crustaceans - Brine shrimp - Artemia salina	48 hours
	Acute LC50 4020 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
Silica, amorphous, fumed, cryst.-free propane-1,2-diol	Chronic NOEC 1.01 mg/l	Daphnia	21 days
	Acute LC50 >10000 mg/l	Fish - Brachydanio rerio	96 hours
	Acute EC50 24200 mg/l	Algae	72 hours
	Acute EC50 18800 mg/l	Daphnia	48 hours
	Acute LC50 1020000 µg/l Fresh water	Crustaceans - Water flea -	48 hours



Crystic 2.446PA

**SECTION 12: Ecological information**

phthalic anhydride	Acute LC50 710000 µg/l Fresh water	Ceriodaphnia dubia	96 hours
	Chronic NOEC 13020 mg/l NOEC 16 mg/l	Fish - Fathead minnow - Pimephales promelas	7 days 21 days
ethanediol	Acute EC50 >640 mg/l Fresh water	Daphnia	48 hours
	Acute EC50 >1000 mg/l	Daphnia	3 hours
	Acute NOEC 32 mg/l	Micro-organism - Activated sludge	72 hours
	Acute NOEC >100 mg/l	Algae	72 hours
	Acute LC50 6900000 µg/l Fresh water	Algae	48 hours
	Acute LC50 41000 mg/l Fresh water	Crustaceans - Water flea - Ceriodaphnia dubia - Neonate	48 hours
2,2' -oxybisethanol	Acute LC50 8050000 µg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	96 hours
	Acute LC50 75200000 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
N,N-dimethylaniline	Acute EC50 5 mg/l	Fish - Fathead minnow - Pimephales promelas	48 hours
	Acute IC50 340 mg/l	Daphnia - Water flea - Daphnia magna	96 hours
maleic anhydride	Acute LC50 65.6 mg/l	Algae - Desmodesmus subspicatus	96 hours
	Acute LC50 230 ppm Fresh water	Fish - Pimephales promelas	96 hours
Naphthenic acids, copper salts	Acute LC50 3300 to 10000 µg/l Marine water	Fish - Western mosquitofish - Gambusia affinis - Adult	48 hours
	Acute LC50 2.7 mg/l Fresh water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
1,4-dihydroxybenzene	Acute LC50 0.161 ppm Fresh water	Daphnia - Water flea - Daphnia magna	96 hours
	Acute EC50 0.134 mg/l	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	48 hours
methacrylic acid	Acute LC50 0.06 mg/l Fresh water	Daphnia	96 hours
	Chronic EC50 0.33 mg/l	Fish - Fathead minnow - Pimephales promelas - Larvae	72 hours
xylene	Chronic NOEC 0.019 mg/l	Aquatic plants	72 hours
	Chronic NOEC 0.0057 mg/l	Daphnia	21 days
ethylbenzene	Chronic NOEC 53 mg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	21 days
	Acute LC50 8500 µg/l Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
aniline	Acute LC50 13400 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Acute EC50 4.6 mg/l	Algae	48 hours
	Acute EC50 2.96 to 4.4 mg/l	Daphnia	96 hours
	Acute LC50 4.2 mg/l	Fish	72 hours
	Acute EC50 175000 µg/l Fresh water	Algae - Green algae - Chlorella pyrenoidosa	96 hours
	Acute EC50 20000 µg/l Fresh water	Algae - Green algae - Selenastrum sp.	48 hours
	Acute LC50 44 µg/l Fresh water	Crustaceans - Water flea - Ceriodaphnia dubia	48 hours
	Acute LC50 80 µg/l Fresh water	Daphnia - Water flea - Daphnia magna	4 days
	Acute LC50 7600 µg/l Fresh water	Fish - Goldfish - Carassius auratus - Egg	72 hours
	Chronic NOEC 90000 µg/l Fresh water	Algae - Green algae - Chlorella pyrenoidosa	21 days
	Chronic NOEC 0.004 mg/l Fresh water	Daphnia - Water flea - Daphnia magna	32 days
	Chronic NOEC 0.422 mg/l Fresh water	Fish - Fathead minnow - Pimephales promelas - Embryo	

Crystic 2.446PA

**SECTION 12: Ecological information****Conclusion/Summary** : Not available.**12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
propane-1,2-diol	OECD 306 Biodegradability in Seawater	90.6 % - 64 days	-	-
	OECD 301F Ready Biodegradability - Manometric Respirometry Test	81.07 % - 28 days	-	-
phthalic anhydride	-	85.2 % - 28 days	-	-
1,4-dihydroxybenzene	-	70 % - Readily - 14 days	-	-
methacrylic acid	-	86 % - 28 days	-	-

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
styrene	-	-	Readily
propane-1,2-diol	-	-	Readily
phthalic anhydride	-	-	Readily
cobalt bis(2-ethylhexanoate)	-	-	Not readily
1,4-dihydroxybenzene	-	-	Readily
methacrylic acid	-	-	Readily
xylene	-	-	Readily
ethylbenzene	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
styrene	0.35	13.49	low
propane-1,2-diol	-1.07	-	low
phthalic anhydride	1.6	3.4	low
ethanediol	-1.36	-	low
cobalt bis(2-ethylhexanoate)	-	15600	high
2,2'-oxybisethanol	-1.98	100	low
N,N-dimethylaniline	1.171	16	low
maleic anhydride	-2.78	-	low
1,4-dihydroxybenzene	0.59	3.162	low
1-methoxy-2-propanol	<1	-	low
(2-methoxymethylethoxy)	0.004	-	low
propanol	-	-	-
methacrylic acid	0.93	-	low
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
aniline	0.91	2.6	low

**12.4 Mobility in soil****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 Other adverse effects** : No known significant effects or critical hazards.

Crystic 2.446PA

## 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.

**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	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

Crystic 2.446PA

## SECTION 14: Transport information

**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.

## 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

None of the components are listed.

###### Ozone depleting substances

Not listed.

###### Prior Informed Consent (PIC)

Not listed.

###### Persistent Organic Pollutants

Not listed.

**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

P5c

###### National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
cobalt bis(2-ethylhexanoate)	UK Occupational Exposure Limits EH40 - WEL	cobalt and cobalt compounds as Co	Carc.	-

###### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

Crystic 2.446PA

## SECTION 15: Regulatory information

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

### 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  
 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
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

H225	Highly flammable liquid and vapour.
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.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

Crystic 2.446PA

**SECTION 16: Other information**

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.
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.
H373	May cause 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**

Acute Tox. 2	ACUTE TOXICITY - Category 2
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. 2	FLAMMABLE LIQUIDS - 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. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
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 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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