SAFETY DATA SHEET

Crystic 2.406PA

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

1.1 Product identifier

Product name : Crystic 2.406PA

UFI : VMG2-E0KX-F005-D78Y

Product code : R2007900

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.

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]
1,4-dihydroxybenzene	REACH #: 01-2119524016-51	<0.01	Acute Tox. 4, H302 Eye Dam. 1, H318	[1] [2]

SECTION 3: Composition/information on ingredients

	EC: 204-617-8 CAS: 123-31-9 Index: 604-005-00-4		Skin Sens. 1B, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	
(2-methoxymethylethoxy)propanol	REACH #: 01-2119450011-60 EC: 252-104-2 CAS: 34590-94-8	≤0.1	Not classified.	[2]
Naphthenic acids, copper salts	EC: 215-657-0 CAS: 1338-02-9 Index: 029-003-00-5	<0.1	Flam. Liq. 3, H226 Acute Tox. 4, H302 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1] [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]
1,2-dihydroxybenzene	EC: 204-427-5 CAS: 120-80-9 Index: 604-016-00-4	<0.1	Acute Tox. 3, H301 Acute Tox. 3, H311 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[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) **See Section 16 for the full text of the H statements declared above.**	[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

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

SECTION 3: Composition/information on ingredients

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

4.3 Indication of any immediate medical attention and special treatment needed

SECTION 4: First aid measures

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_2, 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.

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	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** STEL: 250 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 430 mg/m³ 8 hours. STEL: 1080 mg/m³ 15 minutes.
Silica, amorphous, fumed, cryst.-free	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [silica, amorphous]** TWA: 2.4 mg/m³ 8 hours. Form: respirable dust TWA: 6 mg/m³ 8 hours. Form: inhalable dust
propane-1,2-diol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 10 mg/m³ 8 hours. Form: Particulate TWA: 474 mg/m³ 8 hours. Form: total vapour and particulates TWA: 150 ppm 8 hours. Form: total vapour and particulates
phthalic anhydride	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser.** STEL: 12 mg/m³ 15 minutes. TWA: 4 mg/m³ 8 hours.
ethanediol	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** TWA: 10 mg/m³ 8 hours. Form: Particulate TWA: 20 ppm 8 hours. Form: Vapour STEL: 40 ppm 15 minutes. Form: Vapour TWA: 52 mg/m³ 8 hours. Form: Vapour STEL: 104 mg/m³ 15 minutes. Form: Vapour
cobalt bis(2-ethylhexanoate)	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [cobalt and cobalt compounds] Inhalation sensitiser.** TWA: 0.1 mg/m³, (as Co) 8 hours.
Paraffin waxes and Hydrocarbon waxes	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** STEL: 6 mg/m³ 15 minutes. Form: Fume TWA: 2 mg/m³ 8 hours. Form: Fume
2,2' -oxybisethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 101 mg/m³ 8 hours. TWA: 23 ppm 8 hours.
N,N-dimethylaniline	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** STEL: 50 mg/m³ 15 minutes. STEL: 10 ppm 15 minutes. TWA: 5 ppm 8 hours. TWA: 25 mg/m³ 8 hours.
maleic anhydride	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser.** STEL: 3 mg/m³ 15 minutes. TWA: 1 mg/m³ 8 hours.
1,4-dihydroxybenzene	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 0.5 mg/m³ 8 hours.
(2-methoxymethylethoxy)propanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** TWA: 308 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
Naphthenic acids, copper salts	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [Copper and compounds]** STEL: 2 mg/m³, (as Cu) 15 minutes. Form: Dusts and Mists TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists
methacrylic acid	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** STEL: 143 mg/m³ 15 minutes. STEL: 40 ppm 15 minutes. TWA: 72 mg/m³ 8 hours.

SECTION 8: Exposure controls/personal protection

	TWA: 20 ppm 8 hours.
xylene	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-, p- or mixed isomers] Absorbed through skin.** STEL: 441 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 220 mg/m³ 8 hours. STEL: 100 ppm 15 minutes.
ethylbenzene	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** STEL: 552 mg/m³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 441 mg/m³ 8 hours.
1,2-dihydroxybenzene	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 5 ppm 8 hours. TWA: 23 mg/m³ 8 hours.
aniline	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** TWA: 1 ppm 8 hours. TWA: 4 mg/m³ 8 hours.

Biological exposure indices

Product/ingredient name	Exposure indices
xylene	**EH40/2005 BMGVs (United Kingdom (UK), 8/2018) [Xylene, o-, m-, p- or mixed isomers]** 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/m³	Workers	Systemic
	DNEL	Short term Inhalation	306 mg/m³	Workers	Local
	DNEL	Long term Dermal	406 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	85 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	174.25 mg/m³	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	182.75 mg/m³	General population [Consumers]	Local
	DNEL	Long term Dermal	343 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	10.2 mg/m³	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/m³	General population	Local
	DNEL	Long term Inhalation	1 mg/m³	General population	Systemic

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	DNEL	Short term Inhalation	10 mg/m³	General population	Local
	DNEL	Short term Inhalation	10 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	85 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	100 mg/m³	Workers	Local
	DNEL	Long term Inhalation	100 mg/m³	Workers	Local
	DNEL	Short term Inhalation	100 mg/m³	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
propane-1,2-diol	DNEL	Long term Dermal	213 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	50 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Oral	85 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	10 mg/m³	General population [Consumers]	Local
	DNEL	Long term Inhalation	10 mg/m³	General population	Local
	DNEL	Long term Inhalation	10 mg/m³	Workers	Local
	DNEL	Long term Inhalation	50 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	168 mg/m³	Workers	Systemic
phthalic anhydride	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/m³	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/m³	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/m³	Workers	Systemic
ethanediol	DNEL	Long term Inhalation	7 mg/m³	General population	Local
	DNEL	Long term Inhalation	35 mg/m³	Workers	Local
	DNEL	Long term Dermal	53 mg/kg	General	Systemic

SECTION 8: Exposure controls/personal protection

			bw/day	population	
	DNEL	Long term Dermal	106 mg/kg bw/day	Workers	Systemic
cobalt bis(2-ethylhexanoate)	DNEL	Long term Inhalation	37 µg/m³	General population	Local
	DNEL	Long term Oral	175 µg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	235.1 µg/m³	Workers	Local
2,2' -oxybisethanol	DNEL	Long term Inhalation	12 mg/m³	General population	Local
	DNEL	Long term Inhalation	12 mg/m³	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/m³	Workers	Systemic
	DNEL	Long term Inhalation	60 mg/m³	Workers	Local
N,N-dimethylaniline	DNEL	Long term Inhalation	0.27217391 mg/m³	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/m³	Workers	Systemic
maleic anhydride	DNEL	Short term Dermal	0.04 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	0.04 mg/cm²	Workers	Local
	DNEL	Long term Dermal	0.04 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	0.04 mg/cm²	Workers	Local
	DNEL	Long term Inhalation	0.4 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	0.4 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0.05 mg/m³	General population	Systemic
	DNEL	Long term Oral	0.06 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.08 mg/m³	General population	Local
	DNEL	Long term Inhalation	0.081 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0.081 mg/m³	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

SECTION 8: Exposure controls/personal protection

	DNEL	Short term Inhalation	0.2 mg/m³	Workers	Local
	DNEL	Short term Inhalation	0.2 mg/m³	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/m³	General population [Human via the environment]	Systemic
	DNEL	Long term Inhalation	0.5 mg/m³	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/m³	General population	Systemic
	DNEL	Long term Dermal	1.66 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.1 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
(2-methoxymethylethoxy)propanol	DNEL	Long term Oral	36 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	37.2 mg/m³	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/m³	Workers	Systemic
Naphthenic acids, copper salts	DNEL	Long term Inhalation	0.16 mg/m³	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
	DNEL	Long term Inhalation	0.63 mg/m³	Workers	Systemic
methacrylic acid	DNEL	Long term Inhalation	6.55 mg/m³	General population [Consumers]	Local
	DNEL	Long term Inhalation	6.3 mg/m³	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/m³	General population	Systemic
	DNEL	Long term Inhalation	6.55 mg/m³	General population	Local
	DNEL	Long term	29.6 mg/m³	Workers	Systemic

SECTION 8: Exposure controls/personal protection

		Inhalation			
	DNEL	Long term Inhalation	88 mg/m³	Workers	Local
	DNEL	Short term Dermal	1 %	General population	Local
xylene	DNEL	Short term Inhalation	442 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	221 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m³	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/m³	Workers	Local
	DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m³	General population	Local
	DNEL	Long term Inhalation	65.3 mg/m³	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/m³	Workers	Local
	DNEL	Long term Inhalation	221 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m³	General population	Local
	DNEL	Short term Inhalation	260 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	442 mg/m³	Workers	Local
	DNEL	Short term Inhalation	442 mg/m³	Workers	Systemic
ethylbenzene	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	15 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m³	Workers	Local
	DMEL	Long term Inhalation	442 mg/m³	Workers	Local
	DMEL	Short term Inhalation	884 mg/m³	Workers	Systemic
1,2-dihydroxybenzene	DNEL	Long term Inhalation	0.9 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	2.5 mg/kg bw/day	Workers	Systemic
	DNEL	Short term	85 mg/m³	Workers	Systemic

SECTION 8: Exposure controls/personal protection

		Inhalation			
aniline	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/m³	Workers	Systemic
	DNEL	Short term Inhalation	15.4 mg/m³	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	-
	Soil	50 mg/kg	-
phthalic anhydride	Soil	0.153 mg/kg	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0.826 mg/kg	-
	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	-
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	-
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	-
	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

SECTION 8: Exposure controls/personal protection

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

Physical state : Liquid.

Colour : Blue. [Transparent]

Odour : Solvent

Odour threshold : Not available.

Melting point/freezing point : Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range : Not available.

Flammability (solid, gas) : Not available.

Upper/lower flammability or explosive limits : Not available.

Flash point : Closed cup: 32°C (89.6°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

pH : Not applicable.

Viscosity : Kinematic (40°C): >40 mm^2/s

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure : Not available.

Relative density : 1.1 to 1.2

Vapour density : Not available.

Explosive properties : Not available.

Oxidising properties : Not available.

Particle characteristics

Median particle size : Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : 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.

10.5 Incompatible materials : Reactive or incompatible with the following materials: oxidising materials

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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^3	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	-

SECTION 11: Toxicological information

	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	-
1,4-dihydroxybenzene	LD50 Oral	Rat	375 mg/kg	-
Naphthenic acids, copper salts	LD50 Oral	Rat	2 g/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	-
1,2-dihydroxybenzene	LD50 Dermal	Rabbit	800 mg/kg	-
	LD50 Oral	Rat	260 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 2.406PA	N/A	N/A	7179.6	30.6	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
1,4-dihydroxybenzene	375	N/A	N/A	N/A	N/A
Naphthenic acids, copper salts	2000	N/A	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
1,2-dihydroxybenzene	260	800	N/A	N/A	N/A
aniline	250	300	125	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 %	-
ethanediol	Eyes - Mild irritant	Rabbit	-	1 hours 100 mg	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 mg	-

SECTION 11: Toxicological information

	Skin - Mild irritant	Rabbit	-	555 mg	-
2,2' -oxybisethanol	Eyes - Mild irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Human	-	72 hours 112 mg l	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
aniline	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	skin	Guinea pig	Sensitising
1,4-dihydroxybenzene	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

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
methacrylic acid	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

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

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

SECTION 11: Toxicological information

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	-
Paraffin waxes and Hydrocarbon waxes	Sub-chronic NOAEL Oral	Rat	1.5 mg/kg	-
1,4-dihydroxybenzene	Sub-chronic NOAEL Dermal	Rat	>73.9 mg/kg	90 days
	Sub-chronic NOAEL Oral	Rat	20 mg/kg	90 days
methacrylic acid	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
	Chronic NOEC 1.01 mg/l	Daphnia	21 days
Silica, amorphous, fumed, cryst.-free	Acute LC50 >10000 mg/l	Fish - Brachydanio rerio	96 hours
propane-1,2-diol	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 - Ceriodaphnia dubia	48 hours
	Acute LC50 710000 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Chronic NOEC 13020 mg/l	Daphnia	7 days
phthalic anhydride	NOEC 16 mg/l	Daphnia	21 days
	Acute EC50 >640 mg/l Fresh water	Daphnia	48 hours
	Acute EC50 >1000 mg/l	Micro-organism - Activated sludge	3 hours
	Acute NOEC 32 mg/l	Algae	72 hours
	Acute NOEC >100 mg/l	Algae	72 hours
ethanediol	Acute LC50 6900000 µg/l Fresh water	Crustaceans - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 41000 mg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	Acute LC50 8050000 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
2,2' -oxybisethanol	Acute LC50 75200000 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours

SECTION 12: Ecological information

N,N-dimethylaniline	Acute EC50 5 mg/l	Daphnia - Water flea - Daphnia magna	48 hours
	Acute IC50 340 mg/l	Algae - Desmodesmus subspicatus	96 hours
	Acute LC50 65.6 mg/l	Fish - Pimephales promelas	96 hours
maleic anhydride	Acute LC50 230 ppm Fresh water	Fish - Western mosquitofish - Gambusia affinis - Adult	96 hours
1,4-dihydroxybenzene	Acute EC50 0.134 mg/l	Daphnia	48 hours
	Acute LC50 0.06 mg/l Fresh water	Fish - Fathead minnow - Pimephales promelas - Larvae	96 hours
	Chronic EC50 0.33 mg/l	Aquatic plants	72 hours
	Chronic NOEC 0.019 mg/l	Aquatic plants	72 hours
	Chronic NOEC 0.0057 mg/l	Daphnia	21 days
Naphthenic acids, copper salts	Acute LC50 3300 to 10000 µg/l Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
	Acute LC50 2.7 mg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 0.161 ppm Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
methacrylic acid	Chronic NOEC 53 mg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	21 days
xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
ethylbenzene	Acute EC50 4.6 mg/l	Algae	72 hours
	Acute EC50 2.96 to 4.4 mg/l	Daphnia	48 hours
	Acute LC50 4.2 mg/l	Fish	96 hours
1,2-dihydroxybenzene	Acute LC50 3500 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
aniline	Acute EC50 175000 µg/l Fresh water	Algae - Green algae - Chlorella pyrenoidosa	72 hours
	Acute EC50 20000 µg/l Fresh water	Algae - Green algae - Selenastrum sp.	96 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	48 hours
	Acute LC50 7600 µg/l Fresh water	Fish - Goldfish - Carassius auratus - Egg	4 days
	Chronic NOEC 90000 µg/l Fresh water	Algae - Green algae - Chlorella pyrenoidosa	72 hours
	Chronic NOEC 0.004 mg/l Fresh water	Daphnia - Water flea - Daphnia magna	21 days
	Chronic NOEC 0.422 mg/l Fresh water	Fish - Fathead minnow - Pimephales promelas - Embryo	32 days

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	-	-

SECTION 12: Ecological information

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	$LogP_{ow}$	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
(2-methoxymethylethoxy) propanol	0.004	-	low
methacrylic acid	0.93	-	low
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
1,2-dihydroxybenzene	0.84 to 1.01	-	low
aniline	0.91	2.6	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : 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.

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.

SECTION 13: Disposal considerations

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

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

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.

SECTION 15: Regulatory information

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.
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.
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.

SECTION 16: Other information

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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Version : 0.01

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.