SAFETY DATA SHEET

Date of issue/Date of revision : 20 November 2026 **Version** : 18.01

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

1.1 Product identifier

Product name : SIGMAFAST 278 BASE RAL 7001

Product code : 00332164

Other means of identification

Not available.

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

Product use : Professional applications, Used by spraying.

Use of the substance/ mixture : Coating.

Uses advised against : Product is not intended, labelled or packaged for consumer use.

1.3 Details of the supplier of the safety data sheet

Sigma Paint Saudi Arabia Ltd.
PO Box 7509
Dammam 31472
Saudi Arabia
Tel: 00966 138 47 31 00
Fax: 00966 138 47 17 34

e-mail address of person responsible for this SDS : ndpic@sfda.gov.sa

1.4 Emergency telephone number

: 00966 138473100 extn 1001

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Flam. Liq. 3, H226
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Repr. 1B, H360Fd
STOT RE 2, H373
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

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

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

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

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :



Signal word : Danger

Hazard statements : Flammable liquid and vapour.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility. Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face 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.

Response : Collect spillage.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
P280, P210, P273, P260, P391, P501

Hazardous ingredients : bis-[4-(2,3-epoxipropoxi)phenyl]propane; Quartz (SiO2); 4-nonylphenol, branched; oxirane, mono[(C12-14-alkyloxy)methyl] derivs.; Fatty acids, C14-18 and C16-18-unsatd. , maleated and maleic anhydride

Supplemental label elements : Contains epoxy constituents. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

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 : Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

May cause endocrine disruption.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
bis-[4-(2,3-epoxipropoxi) phenyl]propane	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5%	[1]
crystalline silica, respirable powder (<10 microns)	EC: 238-878-4 CAS: 14808-60-7	≥5.0 - <10	STOT RE 1, H372 (inhalation)	-	[1] [2]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥5.0 - ≤10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Dermal] = 1700 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
4-nonylphenol, branched	REACH #: 01-2119510715-45 EC: 284-325-5 CAS: 84852-15-3 Index: 601-053-00-8	≥5.0 - ≤10	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Repr. 2, H361fd Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1300 mg/kg M [Acute] = 10 M [Chronic] = 10	[1] [3]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≥1.0 - ≤5.0	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≥1.0 - ≤5.0	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Inhalation (vapours)] = 17.8 mg/l	[1] [2]
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	REACH #: 01-2119485289-22 EC: 271-846-8 CAS: 68609-97-2 Index: 603-103-00-4	≥1.0 - ≤5.0	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Repr. 1B, H360F	-	[1]
trizinc bis(orthophosphate)	REACH #: 01-2119485044-40 EC: 231-944-3 CAS: 7779-90-0 Index: 030-011-00-6	≤1.0	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
Fatty acids, C14-18 and C16-18-unsatd., maleated	REACH #: 01-2119978273-29 EC: 288-306-2 CAS: 85711-46-2	≤0.30	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317	-	[1]

SECTION 3: Composition/information on ingredients

maleic anhydride	REACH #: 01-2119472428-31 EC: 203-571-6 CAS: 108-31-6 Index: 607-096-00-9	≤0.10	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 **See Section 16 for the full text of the H statements declared above.**	ATE [Oral] = 400 mg/kg Skin Sens. 1, H317: C ≥ 0.001%	[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.

Xylene: Several REACH registrations cover the REACH registered substance with xylene isomers, ethylbenzene (and toluene). The other REACH Registrations include: 01-2119555267-33 reaction mass of ethylbenzene and m-xylene and p-xylene, 01-2119486136-34 Aromatic hydrocarbons, C8, 01-2119539452-40 reaction mass of ethylbenzene and xylene.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance of equivalent concern - Endocrine disrupting properties

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

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

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

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

SECTION 4: First aid measures

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

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

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations

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

4.3 Indication of any immediate medical attention and special treatment needed

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

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_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 very toxic 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 oxides
halogenated compounds
metal oxide/oxides

5.3 Advice for firefighters

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

SECTION 5: Firefighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour. Put on appropriate personal protective equipment. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

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. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

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

SECTION 7: Handling and storage

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 between the following temperatures: 0 to 35°C (32 to 95°F). 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.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

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).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
crystalline silica, non-respirable powder (>10 microns)	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [quartz silica crystalline–α-quartz and cristobalite]** A2. TWA 8 hours: 0.025 mg/m³. Form: measured as respirable fraction of the aerosol. **Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [silica]** TWA 8 hours: 3 mg/m³. Form: respirable particulate. TWA 8 hours: 10 mg/m³. Form: inhalable particle. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 0.1 mg/m³. **ACGIH TLV (United States, 1/2026) [Silica, crystalline]** A2. TWA 8 hours: 0.025 mg/m³. Form: Respirable fraction.
Talc , not containing asbestiform fibres	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A4. TWA 8 hours: 2 mg/m³. Form: measured as respirable fraction of the aerosol. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 2 mg/m³. **ACGIH TLV (United States, 1/2026)** A4. TWA 8 hours: 2 mg/m³. Form: Respirable fraction.
crystalline silica, respirable powder (<10 microns)	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [quartz silica crystalline–α-quartz and cristobalite]** A2.

SECTION 8: Exposure controls/personal protection

	TWA 8 hours: 0.025 mg/m³. Form: measured as respirable fraction of the aerosol. **Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [silica]** TWA 8 hours: 3 mg/m³. Form: respirable particulate. TWA 8 hours: 10 mg/m³. Form: inhalable particle. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 0.1 mg/m³. **ACGIH TLV (United States, 1/2026) [Silica, crystalline]** A2. TWA 8 hours: 0.025 mg/m³. Form: Respirable fraction.
xylene	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [xylene (o, m & p isomers)]** A4. STEL 15 minutes: 651 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 434 mg/m³. TWA 8 hours: 100 ppm. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006) [xylene (all isomers)]** STEL 15 minutes: 150 ppm. TWA 8 hours: 434 mg/m³. STEL 15 minutes: 651 mg/m³. TWA 8 hours: 100 ppm. **ACGIH TLV (United States, 1/2026) [p-xylene and mixtures containing p-xylene]** A4. Ototoxicant. TWA 8 hours: 20 ppm.
titanium dioxide	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A4. TWA 8 hours: 10 mg/m³. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 10 mg/m³. **ACGIH TLV (United States, 1/2026)** A3. TWA 8 hours: 2.5 mg/m³. Form: respirable fraction, finescale particles.
1-methoxy-2-propanol	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** TWA 8 hours: 369 mg/m³. TWA 8 hours: 100 ppm. STEL 15 minutes: 553 mg/m³. STEL 15 minutes: 150 ppm. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** STEL 15 minutes: 150 ppm. TWA 8 hours: 369 mg/m³. STEL 15 minutes: 553 mg/m³. TWA 8 hours: 100 ppm. **ACGIH TLV (United States, 1/2026)** A4. TWA 8 hours: 50 ppm. TWA 8 hours: 184 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 369 mg/m³.
ethylbenzene	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A3. STEL 15 minutes: 543 mg/m³.

SECTION 8: Exposure controls/personal protection

	STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm. TWA 8 hours: 434 mg/m³. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** STEL 15 minutes: 125 ppm. TWA 8 hours: 434 mg/m³. STEL 15 minutes: 543 mg/m³. TWA 8 hours: 100 ppm. **ACGIH TLV (United States, 1/2026)** A3. Ototoxicant. TWA 8 hours: 20 ppm.
maleic anhydride	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A4. Sensitiser. TWA 8 hours: 0.4 mg/m³. TWA 8 hours: 0.1 ppm. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 1 mg/m³. TWA 8 hours: 0.25 ppm. **ACGIH TLV (United States, 1/2026)** A4. Skin sensitiser , Inhalation sensitiser. TWA 8 hours: 0.01 mg/m³. Form: Inhalable fraction and vapor.

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

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 : Chemical splash goggles and 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. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended.

SECTION 8: Exposure controls/personal protection

When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Gloves : butyl 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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection :

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 : Grey.

Odour : Aromatic.

Odour threshold : Not available.

Melting point/freezing point : Not determined.

Initial boiling point and boiling range : >37.78°C

Flammability : Not determined. There are no data available on the mixture itself.

Upper/lower flammability or explosive limits : Not available.

Flash point : Closed cup: 38°C

Auto-ignition temperature :

Ingredient name	°C	°F	Method
1-methoxy-2-propanol	287	548.6	EU A.15

Decomposition temperature : Stable under recommended storage and handling conditions (see Section 7).

pH : Not applicable. insoluble in water.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): >21 mm^2/s

Solubility(ies) :

Media	Result
cold water	Not soluble

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

Vapour pressure :

SECTION 9: Physical and chemical properties

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
ethylbenzene	9.30076	1.2				

Relative density : 1.64

Explosive properties : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.

Oxidising properties : Product does not present an oxidizing hazard.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

Explosive properties : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.

Oxidising properties : Product does not present an oxidizing hazard.

No additional information.

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 : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

10.5 Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides halogenated compounds metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly.

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility.
Suspected of damaging fertility. Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Dose / Exposure
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Rabbit - Dermal - LD50 Rat - Oral - LD50	23000 mg/kg 15000 mg/kg
XYLENES	Rat - Oral - LD50 Rabbit - Dermal - LD50	4.3 g/kg 1.7 g/kg
4-nonylphenol, branched	Rabbit - Dermal - LD50 Rat - Oral - LD50 *Toxic effects*: Liver - Other changes Blood - Hemorrhage Gross Metabolite Changes - Weight loss or decreased weight gain	2.14 g/kg 1300 mg/kg
1-methoxy-2-propanol	Rabbit - Dermal - LD50 Rat - Oral - LD50 Rat - Inhalation - LC50 Vapour	13 g/kg 5.2 g/kg >7000 ppm [6 hours]
ethylbenzene	Rat - Oral - LD50 Rabbit - Dermal - LD50 Rat - Inhalation - LC50 Vapour	3.5 g/kg 17.8 g/kg 17.8 mg/l [4 hours]
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Rat - Oral - LD50 Rabbit - Dermal - LD50	17100 mg/kg >4000 mg/kg
trizinc bis(orthophosphate)	Rat - Oral - LD50 Rat - Inhalation - LC50 Dusts and mists	>5000 mg/kg >5.7 mg/l [4 hours]
maleic anhydride	Rabbit - Dermal - LD50 Rat - Oral - LD50	2620 mg/kg 400 mg/kg

Acute toxicity estimates

Route	ATE value
Oral	18590.02 mg/kg
Dermal	24113.63 mg/kg
Inhalation (vapours)	140.22 mg/l

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

Product/ingredient name	Result
bis-[4-(2,3-epoxipropoxi)phenyl] propane	Rabbit - Eyes - Redness of the conjunctivae Duration of treatment/exposure: 24 hours Irritation score: 0.4 OECD [Acute Eye Irritation/Corrosion]
-	Rabbit - Eyes - Mild irritant Duration of treatment/exposure: 24 hours Fully reversible in 7 days or less OECD [Acute Eye Irritation/Corrosion]
-	Rabbit - Skin - Erythema/Eschar Duration of treatment/exposure: 4 hours Irritation score: 0.8 OECD [Acute Dermal Irritation/Corrosion]
-	Rabbit - Skin - Oedema Duration of treatment/exposure: 4 hours Irritation score: 0.5 OECD [Acute Dermal Irritation/Corrosion]
-	Rabbit - Skin - Mild irritant Duration of treatment/exposure: 4 hours OECD [Acute Dermal Irritation/Corrosion]

SECTION 11: Toxicological information

xylene	Rabbit - Skin - Moderate irritant Amount/concentration applied: 500 mg Duration of treatment/exposure: 24 hours
4-nonylphenol, branched	Rabbit - Skin - Erythema/Eschar Irritation score: 4

Conclusion/Summary

Skin : Causes severe burns.

Eyes : Causes serious eye damage.

Respiratory : Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Product/ingredient name	Test	Result
bis-[4-(2,3-epoxipropoxi)phenyl] propane	Mouse - skin	Sensitising

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

May damage fertility.
Suspected of damaging fertility. Suspected of damaging the unborn child.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 3	-	Respiratory tract irritation
1-methoxy-2-propanol	Category 3	-	Narcotic effects

Conclusion/Summary (Product) :

Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
crystalline silica, respirable powder (<10 microns)	Category 1	inhalation	-
ethylbenzene	Category 2	-	hearing organs
maleic anhydride	Category 1	inhalation	respiratory system

Conclusion/Summary (Product) :

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

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

Conclusion/Summary (Product) : Based on available data, the classification criteria are not met.

Information on likely routes of exposure : Not available.

Potential acute health effects

SECTION 11: Toxicological information

Inhalation : No known significant effects or critical hazards.

Ingestion : Corrosive to the digestive tract. Causes burns.

Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

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

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. 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 : May damage fertility. Suspected of damaging the unborn child.

Other information : Not available.

Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

11.2 Information on other hazards

SECTION 11: Toxicological information

11.2.1 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Dose / Exposure
bis-[4-(2,3-epoxipropoxi) phenyl]propane	Chronic - NOEC	Daphnia	0.3 mg/l [21 days]
	Acute - LC50 - Fresh water	Daphnia - *daphnia magna*	1.8 mg/l [48 hours]
4-nonylphenol, branched	Acute - LC50	Fish	0.221 mg/l [96 hours]
	Acute - EC50	Algae - Green algae - *Raphidocelis subcapitata*	0.04 mg/l [72 hours]
	Chronic - EC10 - Fresh water	Algae - Green algae - *Desmodesmus subspicatus*	0.37 mg/l [72 hours]
	Acute - LC50 - Fresh water	Crustaceans - Water flea - *Ceriodaphnia cornuta*	20 µg/l [48 hours]
1-methoxy-2-propanol	Acute - LC50 - Fresh water	Fish - Goldfish	>4500 mg/l [96 hours]
	Acute - LC50	Daphnia - Daphnia	23300 mg/l [48 hours]
ethylbenzene	Acute - EC50 - Fresh water	Daphnia	1.8 mg/l [48 hours]
	Chronic - NOEC - Fresh water	Daphnia - *Ceriodaphnia dubia*	1 mg/l
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	LC50	Fish	>1.8 mg/l [96 hours]
	EC50	Daphnia	7.2 mg/l [48 hours]
	EC50	Algae	844 mg/l [72 hours]
trizinc bis(orthophosphate)	Acute - LC50	Fish	0.112 mg/l [96 hours]
	Chronic - NOEC	Fish	0.026 mg/l [30 days]

Conclusion/Summary : Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ethylbenzene	-	79% [10 days] - Readily		
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	OECD [Ready Biodegradability - Manometric Respirometry Test]	87% [28 days] - Readily		

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
bis-[4-(2,3-epoxipropoxi) phenyl]propane	-	-	Not readily
xylene	-	-	Readily
ethylbenzene	-	-	Readily
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
xylene	3.12	7.4 to 18.5	Low
4-nonylphenol, branched	5.4	251.19 [ASTM E 1022-84]	Low
1-methoxy-2-propanol	<1	-	Low
ethylbenzene	3.6	79.43	Low
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3.77	160 to 263	Low
maleic anhydride	-2.78	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
bis-[4-(2,3-epoxipropoxi)phenyl]propane	4	10465.7
1-methoxy-2-propanol	1	10.447
ethylbenzene	2.2	170.406
maleic anhydride	1.1	11.4841

12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

May cause endocrine disruption.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

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

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Avoid release to the environment. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Do not dispose paint or rinse painting tools in sinks or drains. 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

SECTION 13: Disposal considerations

the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging	European waste catalogue (EWC)	
Container	15 01 06	mixed packaging

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	IMDG	IATA
14.1 UN number or ID number	UN3470	UN3470	UN3470
14.2 UN proper shipping name	PAINT, CORROSIVE, FLAMMABLE	PAINT, CORROSIVE, FLAMMABLE	PAINT, CORROSIVE, FLAMMABLE
14.3 Transport hazard class(es)	8 (3)	8 (3)	8 (3)
14.4 Packing group	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(bis-[4-(2,3-epoxipropoxi) phenyl]propane)	Not applicable.

Additional information

ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Tunnel code : (D/E)

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

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.

SECTION 14: Transport information

14.7 Transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Endocrine disrupting properties for environment	4-nonylphenol, branched	Candidate	ED/169/2012	12/19/2012

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

Other national and international regulations.

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Full text of abbreviated H statements :

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
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.
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.

SECTION 16: Other information

H360F	May damage fertility.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. 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 [CLP/GHS] :

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
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
Repr. 1B	REPRODUCTIVE TOXICITY - Category 1B
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin 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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