# SAFETY DATA SHEET

**Date of issue/Date of revision** : 20 November 2026 **Version** : 5.01

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

### 1.1 Product identifier

**Product name** : SIGMASHIELD 880 BASE RAL 9003

**Product code** : 000001187081

**Other means of identification**

00443473

### 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 Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Muta. 2, H341
STOT RE 2, H373
Aquatic Chronic 3, H412

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

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

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

### 2.2 Label elements

**Hazard pictograms** :



## SECTION 2: Hazards identification

**Signal word** : Warning

**Hazard statements** : Flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of causing genetic defects.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : Do not handle until all safety precautions have been read and understood. 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. Do not breathe vapour.

**Response** : Get medical advice/attention if you feel unwell.

**Storage** : Not applicable.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
P202, P280, P210, P260, P314, P501

**Hazardous ingredients** : bis-[4-(2,3-epoxipropoxi)phenyl]propane; Epoxy Resin (700<MW<=1100); Phenol, methylstyrenated; Quartz (SiO2) and 2,3-epoxypropyl neodecanoate

**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** : 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 contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.

**Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

## SECTION 3: Composition/information on ingredients

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi) phenyl]propane | REACH #: 01-2119456619-26<br>EC: 216-823-5<br>CAS: 1675-54-3<br>Index: 603-073-00-2 | ≥10 - ≤22 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 | Skin Irrit. 2, H315: C ≥ 5%<br>Eye Irrit. 2, H319: C ≥ 5% | [1] |
| xylene | REACH #: 01-2119488216-32<br>EC: 215-535-7<br>CAS: 1330-20-7<br>Index: 601-022-00-9 | ≥5.0 - ≤10 | Flam. Liq. 3, H226<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412 | ATE [Dermal] = 1700 mg/kg<br>ATE [Inhalation (vapours)] = 11 mg/l | [1] [2] |
| Epoxy Resin (700<MW <=1100) | REACH #: Exempt<br>CAS: 25036-25-3 | ≥1.0 - ≤5.0 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317 | - | [1] |
| Phenol, methylstyrenated | REACH #: 01-2119555274-38<br>EC: 270-966-8<br>CAS: 68512-30-1 | ≥1.0 - ≤5.0 | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412 | - | [1] [3] |
| 2-methylpropan-1-ol | REACH #: 01-2119484609-23<br>EC: 201-148-0<br>CAS: 78-83-1<br>Index: 603-108-00-1 | ≥1.0 - <3.0 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>STOT SE 3, H335<br>STOT SE 3, H336 | - | [1] [2] |
| crystalline silica, respirable powder (<10 microns) | EC: 238-878-4<br>CAS: 14808-60-7 | ≥1.0 - ≤5.0 | STOT RE 1, H372 (inhalation) | - | [1] [2] |
| 2,3-epoxypropyl neodecanoate | REACH #: 01-2119431597-33<br>EC: 247-979-2<br>CAS: 26761-45-5<br>Index: 607-770-00-2 | ≥0.10 - ≤2.1 | Skin Sens. 1A, H317<br>Muta. 2, H341<br>Repr. 2, H361d<br>Aquatic Chronic 2, H411 | Skin Sens. 1, H317: C ≥ 0.001% | [1] |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | REACH #: 01-0000017900-73<br>EC: 432-840-2<br>CAS: 220926-97-6<br>Index: 616-201-00-7 | ≥1.0 - ≤5.0 | Acute Tox. 4, H332<br>STOT RE 2, H373 (lungs) (inhalation)<br>Aquatic Chronic 4, H413 | ATE [Inhalation (dusts and mists)] = 3.56 mg/l | [1] [2] |
| ethylbenzene | REACH #: 01-2119489370-35<br>EC: 202-849-4<br>CAS: 100-41-4<br>Index: 601-023-00-4 | ≥1.0 - ≤5.0 | Flam. Liq. 2, H225<br>Acute Tox. 4, H332<br>STOT RE 2, H373 (hearing organs)<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412<br>**See Section 16 for the full text of the H statements declared above.** | ATE [Inhalation (vapours)] = 17.8 mg/l | [1] [2] |

## SECTION 3: Composition/information on ingredients

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
[3] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

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** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

**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. 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 irritation.

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

**Skin contact** : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

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

**Over-exposure signs/symptoms**

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

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

**Ingestion** : No specific data.

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

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

# SECTION 5: Firefighting measures

## 5.1 Extinguishing media

**Suitable extinguishing media** : 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 oxides
nitrogen oxides
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.

**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.

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

## SECTION 8: Exposure controls/personal protection

| | |
|---|---|
| | **values (United Arab Emirates, 7/2016)** A4.<br>TWA 8 hours: 1 mg/m³. Form: measured as respirable fraction of the aerosol.<br>**Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)**<br>TWA 8 hours: 10 mg/m³.<br>**ACGIH TLV (United States)**<br>TWA 8 hours: 3 mg/m³. Form: Respirable.<br>TWA 8 hours: 10 mg/m³. |
| 2-methylpropan-1-ol | **Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)**<br>TWA 8 hours: 152 mg/m³.<br>TWA 8 hours: 50 ppm.<br>**Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)**<br>TWA 8 hours: 152 mg/m³.<br>TWA 8 hours: 50 ppm.<br>**ACGIH TLV (United States, 1/2026)**<br>TWA 8 hours: 50 ppm.<br>TWA 8 hours: 152 mg/m³. |
| 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.<br>TWA 8 hours: 0.025 mg/m³. Form: measured as respirable fraction of the aerosol.<br>**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [silica]**<br>TWA 8 hours: 3 mg/m³. Form: respirable particulate.<br>TWA 8 hours: 10 mg/m³. Form: inhalable particle.<br>**Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)**<br>TWA 8 hours: 0.1 mg/m³.<br>**ACGIH TLV (United States, 1/2026) [Silica, crystalline]** A2.<br>TWA 8 hours: 0.025 mg/m³. Form: Respirable fraction. |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | **ACGIH TLV (United States)**<br>TWA: 10 mg/m³. Form: Inhalable particle.<br>TWA: 3 mg/m³ (inhalable dust). Form: Respirable particle. |
| ethylbenzene | **Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A3.<br>STEL 15 minutes: 543 mg/m³.<br>STEL 15 minutes: 125 ppm.<br>TWA 8 hours: 100 ppm.<br>TWA 8 hours: 434 mg/m³.<br>**Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)**<br>STEL 15 minutes: 125 ppm.<br>TWA 8 hours: 434 mg/m³.<br>STEL 15 minutes: 543 mg/m³.<br>TWA 8 hours: 100 ppm.<br>**ACGIH TLV (United States, 1/2026)** A3. Ototoxicant.<br>TWA 8 hours: 20 ppm. |

## SECTION 8: Exposure controls/personal protection

**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.

**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. 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** : White.

**Odour** : Aromatic. [Strong]

**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: 34°C

**Auto-ignition temperature** :

| Ingredient name | °C | °F | Method |
|---|---|---|---|
| 2,3-epoxypropyl neodecanoate | 276 | 528.8 | |

**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 $mm^2/s$

**Viscosity** : > 100 s (ISO 6mm)

**Solubility(ies)** :

| Media | Result |
|---|---|
| cold water | Not soluble |

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

**Vapour pressure** :

| Ingredient name | Vapour Pressure at 20°C | | | Vapour pressure at 50°C | | |
|---|---|---|---|---|---|---|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| 2-methylpropan-1-ol | <12.00102 | <1.6 | DIN EN 13016-2 | | | |

**Relative density** : 1.6

**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 nitrogen oxides 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 serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause damage to organs through prolonged or repeated exposure.

**Acute toxicity**

| Product/ingredient name | Result | Dose / Exposure |
|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Rabbit - Dermal - LD50 | 23000 mg/kg |
| | Rat - Oral - LD50 | 15000 mg/kg |
| XYLENES | Rat - Oral - LD50 | 4.3 g/kg |
| | Rabbit - Dermal - LD50 | 1.7 g/kg |
| EPOXY RESIN (AVERAGE MOLECULAR WEIGHT >700 - <1100) | Rat - Oral - LD50 | >2000 mg/kg |
| | Rat - Dermal - LD50 | >2000 mg/kg |
| Phenol, methylstyrenated | Rat - Oral - LD50 | >2000 mg/kg |
| | Rabbit - Dermal - LD50 | >2000 mg/kg |
| 2-methylpropan-1-ol | Rat - Oral - LD50 | 2830 mg/kg |
| | Rabbit - Dermal - LD50 | 2460 mg/kg |
| | Rat - Inhalation - LC50 Vapour | 24.6 mg/l [4 hours] |
| 2,3-epoxypropyl neodecanoate | Rat - Oral - LD50 | 9.6 g/kg |
| | Rat - Dermal - LD50 | 3800 mg/kg |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | Rat - Oral - LD50 | >2000 mg/kg |
| | Rat - Dermal - LD50 | >2000 mg/kg |
| | Rat - Inhalation - LC50 Dusts and mists | 3.56 mg/l [4 hours] |
| ethylbenzene | Rat - Oral - LD50 | 3.5 g/kg |
| | Rabbit - Dermal - LD50 | 17.8 g/kg |
| | Rat - Inhalation - LC50 Vapour | 17.8 mg/l [4 hours] |

**Acute toxicity estimates**

## SECTION 11: Toxicological information

| Route | ATE value |
|---|---|
| Dermal<br>Inhalation (vapours)<br>Inhalation (dusts and mists) | 29274.55 mg/kg<br>170.6 mg/l<br>273.43 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<br>Duration of treatment/exposure: 24 hours<br>Irritation score: 0.4<br>OECD [Acute Eye Irritation/Corrosion] |
| - | Rabbit - Eyes - Mild irritant<br>Duration of treatment/exposure: 24 hours<br>Fully reversible in 7 days or less<br>OECD [Acute Eye Irritation/Corrosion] |
| - | Rabbit - Skin - Erythema/Eschar<br>Duration of treatment/exposure: 4 hours<br>Irritation score: 0.8<br>OECD [Acute Dermal Irritation/Corrosion] |
| - | Rabbit - Skin - Oedema<br>Duration of treatment/exposure: 4 hours<br>Irritation score: 0.5<br>OECD [Acute Dermal Irritation/Corrosion] |
| - | Rabbit - Skin - Mild irritant<br>Duration of treatment/exposure: 4 hours<br>OECD [Acute Dermal Irritation/Corrosion] |
| xylene | Rabbit - Skin - Moderate irritant<br>Amount/concentration applied: 500 mg<br>Duration of treatment/exposure: 24 hours |

**Conclusion/Summary**

**Skin** : Causes skin irritation.

**Eyes** : Causes serious eye irritation.

**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**

Suspected of causing genetic defects.

**Carcinogenicity**

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

**Reproductive toxicity**

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

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

## SECTION 11: Toxicological information

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| xylene | Category 3 | - | Respiratory tract irritation |
| 2-methylpropan-1-ol | Category 3 | - | Respiratory tract irritation |
| - | 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 | - |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | Category 2 | inhalation | lungs |
| ethylbenzene | Category 2 | - | hearing organs |

**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**

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

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

**Skin contact** : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

**Eye contact** : Causes serious eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** : No specific data.

**Ingestion** : No specific data.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
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.

# SECTION 11: Toxicological information

## 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** : Suspected of causing genetic defects.

**Reproductive toxicity** : No known significant effects or critical hazards.

**Other information** : Not available.

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

#### 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] |
| 2-methylpropan-1-ol | Acute - EC50 | Daphnia | 1100 mg/l [48 hours] |
| 2,3-epoxypropyl neodecanoate | Acute - LC50 | Fish - *Oncorhynchus mykiss* | 9.6 mg/l [96 hours] |
| | Acute - EC50 | Daphnia - *Daphnia magna* | 4.8 mg/l [48 hours] |
| | Acute - EC50 | Algae | 3.5 mg/l [96 hours] |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | Acute - LC50 | Fish - *Oncorhynchus mykiss (rainbow trout)* | >100 mg/l [96 hours] |
| | Acute - EC50 | Daphnia - *Daphnia magna (Water flea)* | >100 mg/l [48 hours] |
| | Acute - EC50 | Algae - *Pseudokirchneriella subcapitata (microalgae)* | >100 mg/l [72 hours] |
| | Chronic - NOEC | Daphnia - *Daphnia magna (Water flea)* | ≥50 mg/l [21 days] |
| | Chronic - NOEC | Algae - *Pseudokirchneriella* | 100 mg/l [72 hours] |

## SECTION 12: Ecological information

| | | | |
|---|---|---|---|
| | | *subcapitata* | |
| ethylbenzene | Acute - EC50 - Fresh water | Daphnia | 1.8 mg/l [48 hours] |
| | Chronic - NOEC - Fresh water | Daphnia - *Ceriodaphnia dubia* | 1 mg/l |

**Conclusion/Summary** : Harmful to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| 2,3-epoxypropyl neodecanoate | - | 7 to 11% [28 days] | | |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | OECD [ Ready Biodegradability - Closed Bottle Test] | 9% [29 days] - Not readily | | |
| ethylbenzene | - | 79% [10 days] - Readily | | |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi) phenyl]propane | - | - | Not readily |
| xylene | - | - | Readily |
| 2,3-epoxypropyl neodecanoate | - | - | Not readily |
| ethylbenzene | - | - | Readily |

### 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| xylene | 3.12 | 7.4 to 18.5 | Low |
| Phenol, methylstyrenated | 3.627 | - | Low |
| 2-methylpropan-1-ol | 1 | - | Low |
| 2,3-epoxypropyl neodecanoate | 4.4 | - | High |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | >6 | - | High |
| ethylbenzene | 3.6 | 79.43 | 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 |
| 2-methylpropan-1-ol | 1.1 | 12.0246 |
| ethylbenzene | 2.2 | 170.406 |

### 12.5 Results of PBT and vPvB assessment

## SECTION 12: Ecological information

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|---|---|---|---|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi) phenyl]propane | No | N/A | N/A | No | N/A | N/A | N/A |
| xylene | No | N/A | No | No | No | N/A | No |
| Epoxy Resin (700<MW <=1100) | No | N/A | N/A | No | N/A | N/A | N/A |
| Phenol, methylstyrenated | No | N/A | N/A | No | SVHC (Candidate) | Specified | Specified |
| 2-methylpropan-1-ol | No | N/A | N/A | No | N/A | N/A | N/A |
| ethylbenzene | No | N/A | No | Yes | No | N/A | No |

### 12.6 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.

### 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 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** | UN1263 | UN1263 | UN1263 |
| **14.2 UN proper shipping name** | PAINT | PAINT | PAINT |
| **14.3 Transport hazard class(es)** | 3 | 3 | 3 |
| **14.4 Packing group** | III | III | III |
| **14.5 Environmental hazards** | No. | No. | No. |
| **Marine pollutant substances** | Not applicable. | Not applicable. | Not applicable. |

**Additional information**

**ADR/RID** : None identified.

**Tunnel code** : (D/E)

**IMDG** : None identified.

**IATA** : None identified.

**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 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 |
|---|---|---|---|---|
| vPvB | Phenol, methylstyrenated | Candidate | D(2023) 8585-DC | 1/23/2024 |

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Other national and international regulations.**

**Explosive precursors** : Not applicable.

**Ozone depleting substances (EU 2024/590)**

## SECTION 15: Regulatory information

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. |
| H304 | May be fatal if swallowed and enters airways. |
| H312 | Harmful in contact with skin. |
| 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. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H341 | Suspected of causing genetic defects. |
| 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. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H413 | May cause long lasting harmful effects to aquatic life. |

**Full text of classifications [CLP/GHS]** :

| | |
|---|---|
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 |
| Aquatic Chronic 4 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4 |
| 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 |
| Muta. 2 | GERM CELL MUTAGENICITY - Category 2 |
| Repr. 2 | REPRODUCTIVE TOXICITY - Category 2 |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| Skin Sens. 1A | SKIN SENSITISATION - Category 1A |
| 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 |

**History**

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

**Date of previous issue** : 20 November 2026

**Prepared by** : EHS

## SECTION 16: Other information

**Version** : 5.01

**Disclaimer**

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