# SAFETY DATA SHEET

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

### 1.1 Product identifier

**Product name** : SIGMACOVER 246/410/430 LT HARDENER

**Product code** : 000010020924

**Other means of identification**

00250027; 00475523 ; 40410-LTHRD/4L

### 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
Acute Tox. 4, H302
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Repr. 2, H361fd
STOT SE 3, H335
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** :



: Danger

**Hazard statements** : Flammable liquid and vapour.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.
Suspected of damaging 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.

**Response** : Collect spillage.

**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.
P280, P210, P273, P391, P403 + P233, P501

**Hazardous ingredients** : ethylbenzene; nonylphenol; xylene; Cashew, nutshell liq., polymer with diethylenetriamine and formaldehyde; 2-methylpropan-1-ol; Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine; 3,6-diazaoctanethylenediamin; 3-aminopropyldimethylamine; 2,2'-iminodiethylamine and Cashew, nutshell liq.

**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** : 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 |
|---|---|---|---|---|---|
| ethylbenzene | REACH #: 01-2119489370-35<br>EC: 202-849-4<br>CAS: 100-41-4<br>Index: 601-023-00-4 | ≥10 - ≤25 | 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 | ATE [Inhalation (vapours)] = 17.8 mg/l | [1] [2] |
| nonylphenol | EC: 246-672-0<br>CAS: 25154-52-3<br>Index: 601-053-00-8 | ≥10 - ≤25 | Acute Tox. 4, H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Repr. 2, H361fd<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | ATE [Oral] = 580 mg/kg<br>M [Acute] = 10<br>M [Chronic] = 10 | [1] [3] |
| xylene | REACH #: 01-2119488216-32<br>EC: 215-535-7<br>CAS: 1330-20-7<br>Index: 601-022-00-9 | ≥10 - ≤25 | 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] |
| Cashew, nutshell liq., polymer with diethylenetriamine and formaldehyde | CAS: 68413-29-6 | ≥10 - ≤25 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317 | ATE [Oral] = 500 mg/kg<br>ATE [Dermal] = 1100 mg/kg | [1] |
| Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol | CAS: 445498-00-0 | ≥5.0 - ≤10 | Acute Tox. 4, H302<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | ATE [Oral] = 500 mg/kg<br>M [Acute] = 1<br>M [Chronic] = 1 | [1] |
| 2-methylpropan-1-ol | REACH #: 01-2119484609-23<br>EC: 201-148-0<br>CAS: 78-83-1<br>Index: 603-108-00-1 | ≥5.0 - ≤10 | 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] |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | REACH #: 01-2119972320-44<br>EC: 500-191-5<br>CAS: 68082-29-1 | ≥1.0 - ≤5.0 | Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1A, H317<br>Aquatic Chronic 2, H411 | - | [1] |
| 2,4,6-tris (dimethylaminomethyl) phenol | REACH #: 01-2119560597-27<br>EC: 202-013-9<br>CAS: 90-72-2 | ≥1.0 - ≤5.0 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1C, H314<br>Eye Dam. 1, H318 | ATE [Oral] = 1200 mg/kg<br>ATE [Dermal] = 1280 mg/kg | [1] |
| 3,6-diazaoctanethylenediamin | EC: 203-950-6<br>CAS: 112-24-3<br>Index: 612-059-00-5 | <1.0 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1B, H314 | ATE [Oral] = 1716 mg/kg<br>ATE [Dermal] = 1465 | [1] [2] |

## SECTION 3: Composition/information on ingredients

| | | | | | |
|---|---|---|---|---|---|
| | | | Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412 | mg/kg | |
| 3-aminopropyldimethylamine | REACH #: 01-2119486842-27<br>EC: 203-680-9<br>CAS: 109-55-7 | <1.0 | Flam. Liq. 3, H226<br>Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1B, H317<br>Repr. 2, H361d<br>STOT SE 3, H335 | ATE [Oral] = 410 mg/kg<br>ATE [Dermal] = 1100 mg/kg | [1] |
| 2,2'-iminodiethylamine | REACH #: 01-2119473793-27<br>EC: 203-865-4<br>CAS: 111-40-0<br>Index: 612-058-00-X | ≤0.30 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Acute Tox. 2, H330<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>STOT SE 3, H335 | ATE [Oral] = 1080 mg/kg<br>ATE [Dermal] = 1090 mg/kg<br>ATE [Inhalation (dusts and mists)] = 0.05 mg/l | [1] [2] |
| Cashew, nutshell liq. | REACH #: 01-2119502450-57<br>EC: 700-991-6<br>CAS: 8007-24-7 | ≤0.30 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317 | ATE [Oral] = 500 mg/kg<br>ATE [Dermal] = 1100 mg/kg | [1] |
| p-nonylphenol | EC: 203-199-4<br>CAS: 104-40-5 | ≤0.10 | Acute Tox. 4, H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Repr. 2, H361<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410<br>**See Section 16 for the full text of the H statements declared above.** | ATE [Oral] = 1620 mg/kg<br>M [Acute] = 10<br>M [Chronic] = 10 | [1] [3] |

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.

[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.

## 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.

## SECTION 4: First aid measures

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

### 4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

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

**Inhalation** : May cause respiratory irritation.

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

**Ingestion** : Harmful if swallowed.

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:
pain
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:
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** : 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

## SECTION 5: Firefighting measures

**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
nitrogen oxides
halogenated compounds

### 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. 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 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 |
|---|---|
| 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. |

## SECTION 8: Exposure controls/personal protection

| | |
|---|---|
| | 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. |
| 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. |
| 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. |
| 2,2'-iminodiethylamine | **Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** Absorbed through skin.<br>TWA 8 hours: 4.2 mg/m³.<br>TWA 8 hours: 1 ppm.<br>**Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** Absorbed through skin.<br>TWA 8 hours: 4.2 mg/m³.<br>TWA 8 hours: 1 ppm.<br>**ACGIH TLV (United States, 1/2026)** Absorbed through skin.<br>TWA 8 hours: 1 ppm.<br>TWA 8 hours: 4.2 mg/m³. |

**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

## 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** : 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. 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** : Not available.

**Odour** : Amine-like.

**Odour threshold** : Not available.

**Melting point/freezing point** : Not determined.

## SECTION 9: Physical and chemical properties

**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: 30°C

**Auto-ignition temperature** :

| Ingredient name | °C | °F | Method |
|---|---|---|---|
| nonylphenol | 370 | 698 | |

**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** :

| 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** : 0.94

**Bulk density ( g/cm³ )** : 0.94

**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.

## SECTION 10: Stability and reactivity

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 halogenated compounds

## 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.

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

**Acute toxicity**

| Product/ingredient name | Result | Dose / Exposure |
|---|---|---|
| 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] |
| nonylphenol | Rabbit - Dermal - LD50 | 2.14 g/kg |
| | Rat - Oral - LD50 | 580 mg/kg |
| XYLENES | Rat - Oral - LD50 | 4.3 g/kg |
| | Rabbit - Dermal - LD50 | 1.7 g/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] |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | Rat - Dermal - LD50 | >2000 mg/kg |
| | Rat - Oral - LD50 | >2000 mg/kg |
| 2,4,6-tris(dimethylaminomethyl)phenol | Rat - Dermal - LD50 | 1280 mg/kg |
| | Rat - Oral - LD50 | 1200 mg/kg |
| | *Toxic effects*: Peripheral Nerve and Sensation - Flaccid paralysis without anesthesia (usually neuromuscular blockage) Lung, Thorax, or Respiration - Dyspnea | |
| 3,6-diazaoctanethylenediamin | Rabbit - Dermal - LD50 | 1465 mg/kg |
| | Rat - Oral - LD50 | 1716 mg/kg |
| 3-aminopropyldimethylamine | Rat - Oral - LD50 | 410 mg/kg |
| | Rabbit - Dermal - LD50 | 2139 mg/kg |
| | Rat - Dermal - LD50 | 400 to 2000 mg/kg |
| | Rat - Inhalation - LC50 Dusts and mists | >21.9 mg/l [4 hours] |
| 2,2'-iminodiethylamine | Rat - Oral - LD50 | 1080 mg/kg |
| | *Toxic effects*: Behavioral - Convulsions or effect on seizure threshold | |
| | Rabbit - Dermal - LD50 | 1090 mg/kg |
| | Rat - Inhalation - LC50 Dusts and mists | 0.07 to 0.3 mg/l [4 hours] |
| p-nonylphenol | Rat - Oral - LD50 | 1620 mg/kg |

**Acute toxicity estimates**

## SECTION 11: Toxicological information

| Route | ATE value |
|---|---|
| Oral | 1393.21 mg/kg |
| Dermal | 4662.83 mg/kg |
| Inhalation (vapours) | 40.2 mg/l |
| Inhalation (dusts and mists) | 20.59 mg/l |

**Conclusion/Summary** : Harmful if swallowed.

**Irritation/Corrosion**

| Product/ingredient name | Result |
|---|---|
| xylene | Rabbit - Skin - Moderate irritant<br>Amount/concentration applied: 500 mg<br>Duration of treatment/exposure: 24 hours |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | Human - Skin - Irritant |
| - | Rabbit - Eyes - Severe irritant |

**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 |
|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | Mouse - skin | Sensitising |
| 3,6-diazaoctanethylenediamin | Guinea pig - skin<br>OECD 406 | 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**

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 |
| 2-methylpropan-1-ol | Category 3 | - | Respiratory tract irritation |
| - | Category 3 | - | Narcotic effects |
| 3-aminopropyldimethylamine | Category 3 | - | Respiratory tract irritation |
| 2,2'-iminodiethylamine | Category 3 | - | Respiratory tract irritation |

**Conclusion/Summary (Product)** :

May cause respiratory irritation.

# SECTION 11: Toxicological information

## Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| ethylbenzene | Category 2 | - | hearing organs |

**Conclusion/Summary (Product) :**
May cause damage to organs through prolonged or repeated exposure.

## Aspiration hazard

| Product/ingredient name | Result |
|---|---|
| ethylbenzene<br>xylene | ASPIRATION HAZARD - Category 1<br>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** : May cause respiratory irritation.

**Ingestion** : Harmful if swallowed.

**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:
respiratory tract irritation
coughing
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

# SECTION 11: Toxicological information

**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** : Suspected of damaging fertility. Suspected of damaging the unborn child.

**Other information** : Not available.

Prolonged or repeated contact may dry skin and cause irritation. 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. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

### 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 |
|---|---|---|---|
| ethylbenzene | Acute - EC50 - Fresh water | Daphnia | 1.8 mg/l [48 hours] |
| | Chronic - NOEC - Fresh water | Daphnia - *Ceriodaphnia dubia* | 1 mg/l |
| nonylphenol | Chronic - EC10 - Marine water | Algae - Green Flagellate - *Platymonas subcordiformis* - Exponential growth phase | 0.091 mg/l [96 hours] |
| | Acute - EC50 - Marine water | Algae - Green Flagellate - *Platymonas subcordiformis* - Exponential growth phase | 0.851 mg/l [96 hours] |
| | Acute - LC50 - Fresh water | Daphnia - Water flea - *Daphnia magna* | 0.18 mg/l [48 hours] |
| 2-methylpropan-1-ol | Acute - EC50 | Daphnia | 1100 mg/l [48 hours] |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty | EC10 | Algae | 1.78 mg/l [72 hours] |

## SECTION 12: Ecological information

| | | | |
|---|---|---|---|
| acids and triethylenetetramine | | | |
| 2,4,6-tris (dimethylaminomethyl)phenol | Acute - LC50 | Daphnia | >100 mg/l [48 hours] |
| | Acute - LC50 | Fish | >100 mg/l [96 hours] |
| 2,2'-iminodiethylamine | Acute - LC50 | Fish | 430 mg/l [96 hours] |
| p-nonylphenol | Chronic - EC10 - Fresh water | Algae - Green algae - *Raphidocelis subcapitata* - Exponential growth phase | 54.4 µg/l [72 hours] |
| | Acute - EC50 - Fresh water | Algae - Green algae - *Raphidocelis subcapitata* - Exponential growth phase | 117.7 µg/l [72 hours] |

**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 | | |
| 2,4,6-tris (dimethylaminomethyl)phenol | OECD [ Ready Biodegradability - Closed Bottle Test] | 4% [28 days] - Not readily | | |
| 2,2'-iminodiethylamine | - | 87% [21 days] - Readily | | |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| ethylbenzene | - | - | Readily |
| xylene | - | - | Readily |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine | - | - | Not readily |
| 2,4,6-tris (dimethylaminomethyl)phenol | - | - | Not readily |
| 2,2'-iminodiethylamine | - | - | Readily |

### 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| ethylbenzene | 3.6 | 79.43 | Low |
| nonylphenol | 3.28 | 154.88 | Low |
| xylene | 3.12 | 7.4 to 18.5 | Low |
| 2-methylpropan-1-ol | 1 | - | Low |
| 2,4,6-tris(dimethylaminomethyl)phenol | 0.219 | - | Low |
| 3,6-diazaoctanethylenediamin | -1.66 to -1.4 | - | Low |
| 3-aminopropyldimethylamine | -0.352 | - | Low |
| 2,2'-iminodiethylamine | -5.58 | 4.47 [OECD 305 C] | Low |
| Cashew, nutshell liq. | >4.78 | - | High |
| p-nonylphenol | 5.76 | 380.19 | Low |

# SECTION 12: Ecological information

### 12.4 Mobility in soil

**Soil/water partition coefficient**

| Product/ingredient name | logKoc | Koc |
|---|---|---|
| ethylbenzene | 2.2 | 170.406 |
| 2-methylpropan-1-ol | 1.1 | 12.0246 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 2.7 | 525.589 |
| 3,6-diazaoctanethylenediamin | 1.5 | 33.6474 |
| 3-aminopropyldimethylamine | 1.7 | 46.284 |
| 2,2'-iminodiethylamine | 0.61 | 4.03999 |
| p-nonylphenol | 3.8 | 6913.46 |

### 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. 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 |

## SECTION 13: Disposal considerations

**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. | (nonylphenol) | 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.

**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**

## SECTION 15: Regulatory information

| Intrinsic property | Ingredient name | Status | Reference number | Date of revision |
|---|---|---|---|---|
| Substance of equivalent concern for environment | nonylphenol | Candidate | ED/169/2012 | 4/19/2013 |
| Endocrine disrupting properties for environment | nonylphenol | Candidate | ED/169/2012 | 12/19/2012 |
| | p-nonylphenol | 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** : Not applicable.

**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. |
| H330 | Fatal if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H361d | Suspected of damaging the unborn child. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| 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. |

## SECTION 16: Other information

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

| | |
|---|---|
| Acute Tox. 2 | ACUTE TOXICITY - Category 2 |
| 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. 2 | REPRODUCTIVE TOXICITY - Category 2 |
| Skin Corr. 1B | SKIN CORROSION/IRRITATION - Category 1B |
| Skin Corr. 1C | SKIN CORROSION/IRRITATION - Category 1C |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| Skin Sens. 1A | SKIN SENSITISATION - Category 1A |
| Skin Sens. 1B | SKIN SENSITISATION - Category 1B |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

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**Disclaimer**

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