# SAFETY DATA SHEET

**Date of issue/Date of revision** : 20 November 2026 **Version** : 2

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

### 1.1 Product identifier

**Product name** : SIGMA SAILADVANCE RX REDBROWN

**Product code** : 000001188845

**Other means of identification**

00444779

### 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** : Antifouling products

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

### 1.3 Details of the supplier of the safety data sheet

PPG Gabon
BP 4017, Libreville
Gabon
Tel: 00241 70 02 34
Fax: 00241 70 02 44

**e-mail address of person responsible for this SDS** : PS.ACEMEA@ppg.com

**1.4 Emergency telephone number** : ORFILA (INRS) 0033 (0)1 45 42 59 59 / 00241 70 02 34

## 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
Eye Dam. 1, H318
Skin Sens. 1, H317
Carc. 2, H351
STOT SE 3, H335
STOT SE 3, H336
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

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

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

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

### 2.2 Label elements

## SECTION 2: Hazards identification

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : Flammable liquid and vapour.
Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
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** : dicopper oxide; Hydrocarbons, C9, aromatics < 0.1% cumene; rosin; 4-methylpentan-2-one; zineb (ISO); xylene and Terpineol

**Supplemental label elements** : Repeated exposure may cause skin dryness or cracking.

**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.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| dicopper oxide | REACH #: 01-2119513794-36<br>EC: 215-270-7<br>CAS: 1317-39-1<br>Index: 029-002-00-X | ≥25 - ≤50 | Acute Tox. 4, H302<br>Acute Tox. 4, H332<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | ATE [Oral] = 500 mg/kg<br>ATE [Inhalation (dusts and mists)] = 3.34 mg/l<br>M [Acute] = 100<br>M [Chronic] = 10 | [1] [2] |
| Hydrocarbons, C9, aromatics < 0.1% cumene | REACH #: 01-2119455851-35<br>EC: 918-668-5<br>CAS: 128601-23-0 | ≥10 - ≤25 | Flam. Liq. 3, H226<br>STOT SE 3, H335<br>STOT SE 3, H336<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411<br>EUH066 | - | [1] |
| rosin | REACH #: 01-2119480418-32<br>EC: 232-475-7<br>CAS: 8050-09-7<br>Index: 650-015-00-7 | ≥10 - ≤25 | Skin Sens. 1, H317 | - | [1] [2] |
| zinc oxide | REACH #: 01-2119463881-32<br>EC: 215-222-5<br>CAS: 1314-13-2<br>Index: 030-013-00-7 | ≥10 - ≤25 | Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | M [Acute] = 1<br>M [Chronic] = 1 | [1] |
| 4-methylpentan-2-one | REACH #: 01-2119473980-30<br>EC: 203-550-1<br>CAS: 108-10-1<br>Index: 606-004-00-4 | ≥5.0 - ≤10 | Flam. Liq. 2, H225<br>Acute Tox. 4, H332<br>Eye Irrit. 2, H319<br>Carc. 2, H351<br>STOT SE 3, H336<br>EUH066 | ATE [Inhalation (vapours)] = 11 mg/l | [1] [2] |
| zineb (ISO) | EC: 235-180-1<br>CAS: 12122-67-7<br>Index: 006-078-00-2 | ≥1.0 - ≤5.0 | Skin Sens. 1, H317<br>STOT SE 3, H335 | - | [1] |
| xylene | REACH #: 01-2119488216-32<br>EC: 215-535-7<br>CAS: 1330-20-7<br>Index: 601-022-00-9 | ≥1.0 - ≤5.0 | 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] |
| 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 | ≥0.30 - ≤2.4 | 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] |
| Terpineol | REACH #: 01-2119553062-49 | ≥1.0 - ≤4.2 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319 | - | [1] |

## SECTION 3: Composition/information on ingredients

| | | | | | |
|---|---|---|---|---|---|
| | EC: 232-268-1<br>CAS: 8000-41-7 | | Skin Sens. 1, H317<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411 | | |
| copper(II) oxide | REACH #: 01-2119502447-44<br>EC: 215-269-1<br>CAS: 1317-38-0<br>Index: 029-016-00-6 | ≤1.0 | Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | M [Acute] = 100<br>M [Chronic] = 10 | [1] |
| copper | REACH #: 01-2119480154-42<br>EC: 231-159-6<br>CAS: 7440-50-8 | <1.0 | Aquatic Acute 1, H400<br>Aquatic Chronic 3, H412<br><br>**See Section 16 for the full text of the H statements declared above.** | M [Acute] = 1 | [1] |

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

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.

**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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

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

**Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

**Over-exposure signs/symptoms**

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

## SECTION 4: First aid measures

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

**Ingestion** : Adverse symptoms may include the following:
stomach pains

### 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 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
sulfur oxides
halogenated compounds
metal oxide/oxides
oxides of lead

### 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. Avoid breathing 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. 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.

## SECTION 7: Handling and storage

**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 |
|---|---|
| dicopper oxide | **ACGIH TLV (United States, 1/2026) [copper fume]**<br>TWA 8 hours: 0.2 mg/m³. Form: Fume. |
| rosin | **ACGIH TLV (United States, 1/2026) [resin acids]** Skin sensitiser , Inhalation sensitiser.<br>TWA 8 hours: 0.001 mg/m³ (as total Resin acids). Form: Inhalable fraction. |
| 4-methylpentan-2-one | **EU OEL (Europe, 1/2022)**<br>TWA 8 hours: 20 ppm.<br>TWA 8 hours: 83 mg/m³.<br>STEL 15 minutes: 50 ppm.<br>STEL 15 minutes: 208 mg/m³. |
| xylene | **EU OEL (Europe, 1/2022) [xylene, mixed isomers]** Absorbed through skin.<br>TWA 8 hours: 50 ppm.<br>TWA 8 hours: 221 mg/m³.<br>STEL 15 minutes: 100 ppm.<br>STEL 15 minutes: 442 mg/m³. |
| 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. |

**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** : Brownish-red.

**Odour** : Aromatic. [Slight]

**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: 31°C

**Auto-ignition temperature** :

| Ingredient name | °C | °F | Method |
|---|---|---|---|
| zineb (ISO) | 149 | 300.2 | |

**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 |
| 4-methylpentan-2-one | 15.75128 | 2.1 | | | | |

**Relative density** : 1.67

**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 sulfur oxides halogenated compounds metal oxide/ oxides

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

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

Harmful if swallowed.
Causes serious eye damage.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.

**Acute toxicity**

| Product/ingredient name | Result | Dose / Exposure |
|---|---|---|
| dicopper oxide | Rat - Oral - LD50 | 500 mg/kg |
| | Rat - Dermal - LD50 | >2000 mg/kg |
| | Rat - Inhalation - LC50 Dusts and mists | 3.34 mg/l [4 hours] |
| Solvent naphtha (petroleum), light arom. | Rat - Oral - LD50 | 8400 mg/kg |
| | *Toxic effects*: Behavioral - Somnolence (general depressed activity) Behavioral - Tremor Lung, Thorax, or Respiration - Other changes | |
| | Rabbit - Male, Female - Dermal - LD50 | >2000 mg/kg |
| rosin | Rat - Oral - LD50 | 7600 mg/kg |
| | Rat - Dermal - LD50 | >2000 mg/kg |
| zinc oxide | Rat - Oral - LD50 | >5000 mg/kg |
| | Rat - Dermal - LD50 | >2000 mg/kg |
| | Rat - Inhalation - LC50 Dusts and mists | >5700 mg/m³ [4 hours] |
| 4-methylpentan-2-one | Rat - Oral - LD50 | 2.08 g/kg |
| | Rabbit - Dermal - LD50 | >5000 mg/kg |
| | Rat - Inhalation - LC50 Vapour | 11 mg/l [4 hours] |
| zineb (ISO) | Rat - Oral - LD50 | >2000 mg/kg |
| XYLENES | Rat - Oral - LD50 | 4.3 g/kg |
| | Rabbit - Dermal - LD50 | 1.7 g/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] |
| Terpineol (Xi, R38) | Rat - Oral - LD50 | 4300 mg/kg |
| copper(II) oxide | Rat - Oral - LD50 | >2000 mg/kg |
| COPPER | Rat - Inhalation - LC50 Dusts and mists | >5.11 mg/l [4 hours] |

**Acute toxicity estimates**

## SECTION 11: Toxicological information

| Route | ATE value |
|---|---|
| Oral | 1787.15 mg/kg |
| Dermal | 126007.06 mg/kg |
| Inhalation (vapours) | 110.33 mg/l |
| Inhalation (dusts and mists) | 11.53 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 |
| Terpineol | Rabbit - Skin - Irritant<br>OECD 404 |

**Conclusion/Summary**

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

**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 |
|---|---|---|
| zineb (ISO) | Guinea pig - skin | Sensitising |
| Terpineol | 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**

Suspected of causing cancer.

**Reproductive toxicity**

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

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

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Hydrocarbons, C9, aromatics < 0.1% cumene | Category 3 | - | Respiratory tract irritation |
| - | Category 3 | - | Narcotic effects |
| 4-methylpentan-2-one | Category 3 | - | Narcotic effects |
| zineb (ISO) | Category 3 | - | Respiratory tract irritation |
| xylene | Category 3 | - | Respiratory tract irritation |

**Conclusion/Summary (Product)** :

May cause respiratory irritation.

May cause drowsiness or dizziness.

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

## SECTION 11: Toxicological information

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | Category 2 | inhalation | lungs |

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

**Aspiration hazard**

| Product/ingredient name | Result |
|---|---|
| Hydrocarbons, C9, aromatics < 0.1% cumene<br>xylene<br>Terpineol | ASPIRATION HAZARD - Category 1<br>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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

**Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

**Skin contact** : Defatting to the skin. May cause skin dryness and irritation. 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
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

**Ingestion** : Adverse symptoms may include the following:
stomach pains

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

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

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

**Short term exposure**

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

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

**Long term exposure**

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

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

# SECTION 11: Toxicological information

## Potential chronic health effects

**General** : 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** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

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

**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 |
|---|---|---|---|
| dicopper oxide | LC50 | Fish | 0.003 mg/l [96 hours] |
| Hydrocarbons, C9, aromatics < 0.1% cumene | LC50 | Fish | 9.2 mg/l [96 hours] |
| zinc oxide | Acute - EC50 - Fresh water | Daphnia - Water flea - *Daphnia magna* - Neonate | 0.481 mg/l [48 hours] |
| | Acute - EC50 | Algae | 0.17 mg/l [72 hours] |
| | Chronic - NOEC - Fresh water | Algae | 0.017 mg/l [72 hours] |
| 4-methylpentan-2-one | Acute - LC50 | Fish | >179 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] |

## SECTION 12: Ecological information

| | | | |
|---|---|---|---|
| | Chronic - NOEC | Algae - *Pseudokirchneriella subcapitata* | 100 mg/l [72 hours] |
| copper | Acute - LC50 | Fish | 810 ppb [96 hours] |
| | Chronic - EC10 | Daphnia - Water flea - *Daphnia magna* - Neonate | 8.1 µg/l [21 days] |

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

### 12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| Hydrocarbons, C9, aromatics < 0.1% cumene | - | 78% [28 days] | | |
| 4-methylpentan-2-one | OECD 301F | 83% [28 days] - Readily | | |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | OECD [ Ready Biodegradability - Closed Bottle Test] | 9% [29 days] - Not readily | | |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Hydrocarbons, C9, aromatics < 0.1% cumene | - | - | Readily |
| 4-methylpentan-2-one | - | - | Readily |
| xylene | - | - | Readily |

### 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Hydrocarbons, C9, aromatics < 0.1% cumene | 3.7 to 4.5 | 10 to 2500 | High |
| rosin | 1.9 to 7.7 | - | High |
| 4-methylpentan-2-one | 1.9 | - | Low |
| zineb (ISO) | 1.3 | - | Low |
| xylene | 3.12 | 7.4 to 18.5 | Low |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | >6 | - | High |
| Terpineol | 2.6 | - | Low |

### 12.4 Mobility in soil

**Soil/water partition coefficient**

| Product/ingredient name | logKoc | Koc |
|---|---|---|
| 4-methylpentan-2-one | 1.6 | 40.9047 |
| zineb (ISO) | 2.7 | 508.346 |

### 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.

## SECTION 12: Ecological information

### 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 |

## SECTION 14: Transport information

| | | | |
|---|---|---|---|
| **14.5 Environmental hazards** | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| **Marine pollutant substances** | Not applicable. | (dicopper oxide) | 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**

None of the components are listed.

**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. |
| 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. |
| H351 | Suspected of causing cancer. |
| 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. |
| H413 | May cause long lasting harmful effects to aquatic life. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

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

| | |
|---|---|
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Acute 1 | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 |
| Aquatic Chronic 4 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4 |
| Asp. Tox. 1 | ASPIRATION HAZARD - Category 1 |
| Carc. 2 | CARCINOGENICITY - Category 2 |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Flam. Liq. 2 | FLAMMABLE LIQUIDS - Category 2 |
| Flam. Liq. 3 | FLAMMABLE LIQUIDS - Category 3 |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - 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**

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**Prepared by** : EHS

**Version** : 2

**Disclaimer**

## SECTION 16: Other information

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*