

## SeaMate

## Section 1. Identification

|                               |                  |
|-------------------------------|------------------|
| GHS product identifier        | : SeaMate        |
| Other means of identification | : Not available. |
| Product code                  | : 9140           |
| Product description           | : Paint.         |
| Product type                  | : Liquid.        |

[Relevant identified uses of the substance or mixture and uses advised against](#)

## Identified uses

Use in coatings - Professional use

|                       |   |
|-----------------------|---|
| Manufacturing country | : Jotun Thailand Limited<br>700/353 Amata Nakorn Industrial Estate (BIP 2)<br>Moo 6, Tumbol Donhualoh, Amphur Muang Chonburi<br>Chonburi 20000 Thailand |
|                       | Phone: + 66 2 022 9888<br>Fax: + 66 2 022 9888 , + 66 38 214 375  |
|                       | SDSJotun@jotun.com  |

|                            |  |
|----------------------------|--|
| Emergency telephone number | : Jotun Thailand Limited<br>Phone: + 66 2 022 9888 ext. 2100, 2400, 2404 |
|----------------------------|--|

## Section 2. Hazards identification

|  |  |
|--|--|
| Classification of the substance or mixture | : FLAMMABLE LIQUIDS - Category 3<br>ACUTE TOXICITY (oral) - Category 4<br>ACUTE TOXICITY (inhalation) - Category 4<br>SKIN CORROSION/IRRITATION - Category 2<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1<br>SKIN SENSITISATION - Category 1<br>REPRODUCTIVE TOXICITY (Unborn child) - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3<br>ACUTE AQUATIC HAZARD - Category 1<br>LONG-TERM AQUATIC HAZARD - Category 1 |
|--|--|

[GHS label elements](#)

## Hazard pictograms



|             |           |
|-------------|-----------|
| Signal word | : Danger. |
|-------------|-----------|

## Section 2. Hazards identification

- Hazard statements** : Flammable liquid and vapour.  
Harmful if swallowed or if inhaled.  
Causes serious eye damage.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Suspected of damaging the unborn child.  
May cause respiratory irritation.  
Very toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Avoid breathing vapour. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
- Response** : Collect spillage. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- Storage** : Store locked up. Store in a well-ventilated place. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- In compliance** : IMO Antifouling System Convention compliant (AFS/CONF/26).
- Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

### CAS number/other identifiers

- CAS number** : Not applicable.
- EC number** : Mixture.
- Product code** : 9140

| Ingredient name                                 | %         | CAS number |
|---|-----------|------------|
| dicopper oxide                                  | ≥25 - ≤50 | 1317-39-1  |
| xylene  | ≥10 - <22 | 1330-20-7  |
| ethylbenzene                                    | <10       | 100-41-4   |
| colophony                                       | ≤5        | 8050-09-7  |
| zineb   | ≤5        | 12122-67-7 |
| zinc oxide                                      | ≤3        | 1314-13-2  |
| Solvent naphtha (petroleum), light arom.        | ≤3        | 64742-95-6 |
| bis(1-hydroxy-1h-pyridine-2-thionato-o,s)copper | ≤3        | 14915-37-8 |
| 1-methoxy-2-propanol                            | ≤3        | 107-98-2   |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. 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  
blistering may occur  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

## Section 4. First aid measures

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

### Indication of immediate medical attention and special treatment needed, if necessary

**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.

**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.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. 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 thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides  
 metal oxide/oxides

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

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 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 or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## Section 6. Accidental release measures

**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.

### 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling** : 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.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name                          | Exposure limits  |
|--|--|
| xylene                                   | <b>กระทรวงแรงงาน (Thailand, 8/2017).</b><br>TWA: 100 ppm 8 hours.  |
| ethylbenzene                             | <b>กระทรวงแรงงาน (Thailand, 8/2017).</b><br>TWA: 100 ppm 8 hours.  |
| colophony                                | <b>ACGIH TLV (United States, 3/2018).</b><br><b>Skin sensitiser. Inhalation sensitiser.</b>  |
| zinc oxide                               | <b>กระทรวงแรงงาน (Thailand, 8/2017).</b><br>TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Fume<br>TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable dust<br>TWA: 15 mg/m <sup>3</sup> 8 hours. Form: inhalable dust |
| Solvent naphtha (petroleum), light arom. | <b>ACGIH TLV (United States, 1/2005).</b><br>TWA: 123 mg/m <sup>3</sup> 8 hours. Form: All forms<br>TWA: 25 ppm 8 hours. Form: All forms   |
| 1-methoxy-2-propanol                     | <b>ACGIH TLV (United States, 3/2018).</b><br>STEL: 369 mg/m <sup>3</sup> 15 minutes.<br>STEL: 100 ppm 15 minutes.  |

## Section 8. Exposure controls/personal protection

TWA: 184 mg/m<sup>3</sup> 8 hours.  
TWA: 50 ppm 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**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.

**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.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### 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.

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Wear suitable gloves tested to EN374.

Not recommended, gloves(breakthrough time) < 1 hour: neoprene, butyl rubber, PVC

Recommended, gloves(breakthrough time) > 8 hours: fluor rubber, nitrile rubber, 4H, Teflon, polyvinyl alcohol (PVA)

## Section 8. Exposure controls/personal protection

- 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.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. Use respiratory mask with charcoal and dust filter when spraying this product, according to EN 14387(as filter combination A2-P3). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoalfilter.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Colour** : Red.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point** : Not applicable.
- Boiling point** : Lowest known value: 120.17°C (248.3°F) (1-methoxy-2-propanol). Weighted average: 137.43°C (279.4°F)
- Flash point** : Closed cup: 27°C (80.6°F)
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.79 compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : 0.8 - 13.74%
- Vapour pressure** : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.98 kPa (7.35 mm Hg) (at 20°C)
- Vapour density** : Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.67 (Air = 1)
- Relative density** : 1.668 g/cm<sup>3</sup>
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Lowest known value: 270°C (518°F) (1-methoxy-2-propanol).
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Kinematic (40°C): >0.205 cm<sup>2</sup>/s (>20.5 mm<sup>2</sup>/s)

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name                         | Result                          | Species | Dose                 | Exposure |
|---|---------------------------------|---------|----------------------|----------|
| dicopper oxide                                  | LC50 Inhalation Dusts and mists | Rat     | 3.34 mg/l            | 4 hours  |
|   | LD50 Oral                       | Rat     | 470 mg/kg            | -        |
| xylene  | LC50 Inhalation Vapour          | Rat     | 20 mg/l              | 4 hours  |
|   | LD50 Oral                       | Rat     | 4300 mg/kg           | -        |
| ethylbenzene                                    | TDLo Dermal                     | Rabbit  | 4300 mg/kg           | -        |
|   | LC50 Inhalation Gas.            | Rabbit  | 4000 ppm             | 4 hours  |
| zineb   | LD50 Dermal                     | Rabbit  | >5000 mg/kg          | -        |
|   | LD50 Oral                       | Rat     | 3500 mg/kg           | -        |
| bis(1-hydroxy-1h-pyridine-2-thionato-o,s)copper | LD50 Oral                       | Rat     | 1850 mg/kg           | -        |
|   | LC50 Inhalation Dusts and mists | Rat     | 70 mg/m <sup>3</sup> | 4 hours  |
| 1-methoxy-2-propanol                            | LD50 Oral                       | Rat     | 1075 mg/kg           | -        |
|   | LD50 Dermal                     | Rabbit  | 13 g/kg              | -        |
|   | LD50 Oral                       | Rat     | 6600 mg/kg           | -        |

#### Irritation/Corrosion

| Product/ingredient name | Result               | Species | Score | Exposure                | Observation |
|-------------------------|----------------------|---------|-------|-------------------------|-------------|
| zinc oxide              | Eyes - Mild irritant | Rabbit  | -     | 24 hours 500 milligrams | -           |
|                         | Skin - Mild irritant | Rabbit  | -     | 24 hours 500 milligrams | -           |
| 1-methoxy-2-propanol    | Eyes - Mild irritant | Rabbit  | -     | 24 hours 500 milligrams | -           |
|                         | Skin - Mild irritant | Rabbit  | -     | 500 milligrams          | -           |

#### Sensitisation

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

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



## Section 11. Toxicological information

| Name                                     | Category   | Route of exposure | Target organs                                     |
|--|------------|-------------------|---|
| xylene                                   | Category 3 | Not applicable.   | Respiratory tract irritation                      |
| zineb                                    | Category 3 | Not applicable.   | Respiratory tract irritation                      |
| Solvent naphtha (petroleum), light arom. | Category 3 | Not applicable.   | Respiratory tract irritation and Narcotic effects |
| 1-methoxy-2-propanol                     | Category 3 | Not applicable.   | Narcotic effects                                  |

Specific target organ toxicity (repeated exposure)

| Name         | Category   | Route of exposure | Target organs  |
|--------------|------------|-------------------|----------------|
| ethylbenzene | Category 2 | Not determined    | hearing organs |

Aspiration hazard

| Name                           | Result                         |
|--------------------------------|--------------------------------|
| ASPIRATION HAZARD - Category 1 | ASPIRATION HAZARD - Category 1 |
| ASPIRATION HAZARD - Category 1 | ASPIRATION HAZARD - Category 1 |
| ASPIRATION HAZARD - Category 1 | ASPIRATION HAZARD - Category 1 |

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact : Causes serious eye damage.  
 Inhalation : Harmful if inhaled. May cause respiratory irritation.  
 Skin contact : Causes skin irritation. May cause an allergic skin reaction.  
 Ingestion : Harmful if swallowed.

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  
 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 exposureShort term exposure

- Potential immediate effects : Not available.  
 Potential delayed effects : Not available.

## Section 11. Toxicological information

### Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

### Potential chronic health effects

Not available.

**General** : 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.

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

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

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

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route                        | ATE value    |
|------------------------------|--------------|
| Oral                         | 1523.4 mg/kg |
| Dermal                       | 6777.8 mg/kg |
| Inhalation (vapours)         | 50.83 mg/l   |
| Inhalation (dusts and mists) | 3.389 mg/l   |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name                                   | Result                                  | Species                                 | Exposure  |
|---|---|---|-----------|
| dicopper oxide<br>ethylbenzene                            | Acute LC50 0.075 mg/l Fresh water       | Fish - Danio rerio                      | 96 hours  |
|   | Acute EC50 7.2 mg/l                     | Algae                                   | 48 hours  |
| zineb   | Acute EC50 2.93 mg/l                    | Daphnia                                 | 48 hours  |
|   | Acute LC50 4.2 mg/l                     | Fish                                    | 96 hours  |
|   | Acute EC50 0.38 mg/l Fresh water        | Algae - Pseudokirchneriella subcapitata | 96 hours  |
|   | Acute LC50 970 to 1800 µg/l Fresh water | Daphnia - Daphnia magna                 | 48 hours  |
| zinc oxide<br>Solvent naphtha (petroleum),<br>light arom. | Acute LC50 0.225 mg/l                   | Fish                                    | 96 hours  |
|   | Chronic NOEC 0.05 mg/l Fresh water      | Algae - Chlorella vulgaris              | 96 hours  |
|   | Acute LC50 1.1 ppm Fresh water          | Fish - Oncorhynchus mykiss              | 96 hours  |
| bis(1-hydroxy-1h-pyridine-2-thionato-o,s)copper           | Acute EC50 <10 mg/l                     | Daphnia                                 | 48 hours  |
|   | Acute IC50 <10 mg/l                     | Algae                                   | 72 hours  |
|   | Acute LC50 <10 mg/l                     | Fish                                    | 96 hours  |
|   | Acute EC50 0.022 mg/l                   | Daphnia                                 | 48 hours  |
|   | Acute IC50 0.035 mg/l                   | Algae                                   | 120 hours |
|   | Acute LC50 0.0043 mg/l                  | Fish                                    | 96 hours  |

### Persistence and degradability

| Product/ingredient name                     | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| dicopper oxide                              | -                 | -          | Not readily      |
| xylene                                      | -                 | -          | Readily          |
| ethylbenzene                                | -                 | -          | Readily          |
| zinc oxide                                  | -                 | -          | Not readily      |
| Solvent naphtha (petroleum),<br>light arom. | -                 | -          | Not readily      |

## Section 12. Ecological information

### Bioaccumulative potential

| Product/ingredient name                     | LogP <sub>ow</sub> | BCF         | Potential |
|---|--------------------|-------------|-----------|
| xylene                                      | 3.12               | 8.1 to 25.9 | low       |
| ethylbenzene                                | 3.6                | -           | low       |
| colophony                                   | 1.9 to 7.7         | -           | high      |
| zineb                                       | 1.3                | -           | -         |
| zinc oxide                                  | -                  | 60960       | high      |
| Solvent naphtha (petroleum),<br>light arom. | -                  | 10 to 2500  | high      |
| 1-methoxy-2-propanol                        | <1                 | -           | low       |

### Mobility in soil





Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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

|                            | UN   | IMDG   | IATA   |
|----------------------------|--|--|--|
| UN number                  | 1263   | 1263   | 1263   |
| UN proper shipping name    | Paint  | Paint. Marine pollutant (dicopper oxide, bis(1-hydroxy-1h-pyridine-2-thionato-o,s) copper)   | Paint  |
| Transport hazard class(es) | 3<br> | 3<br>  | 3<br> |
| Packing group              | III  | III  | III  |
| Environmental hazards      | Yes. The environmentally hazardous substance mark is not required.                       | Yes.   | Yes. The environmentally hazardous substance mark is not required.                         |
|                            |  |  |  |

## Section 14. Transport information

|  |   |   |   |
|--|---|---|---|
| <a href="#">Special precautions for user</a> | <b>Transport within user's premises:</b> 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. | <b>Transport within user's premises:</b> 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. | <b>Transport within user's premises:</b> 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. |
| <a href="#">Additional information</a>       | -   | The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.<br><br><b><u>Emergency schedules (EmS)</u></b><br>F-E, S-E  | The environmentally hazardous substance mark may appear if required by other transportation regulations.  |

[Transport in bulk according to Annex II of Marpol and the IBC Code](#) : Not available.

[ADR / RID](#) : Tunnel restriction code: (D/E)  
Hazard identification number: 30

## Section 15. Regulatory information

[Hazardous Substance Act B.E. 2535 \(1992\)](#)

[Type](#)

| <a href="#">Ingredient name</a> | <a href="#">Type</a> | <a href="#">Authority</a>        | <a href="#">Conditions</a>  |
|---------------------------------|----------------------|----------------------------------|---|
| zineb                           | 3                    | Department of Agriculture        | -   |
| zineb                           | 3                    | Department of Industrial Works   | Except the part on responsibility of Department of Agriculture      |
| cuprous oxide                   | 3                    | Department of Agriculture        | Except the part on responsibility of Department of Industrial Works |
| cuprous oxide                   | 3                    | Department of Industrial Works   | Except the part on responsibility of Department of Agriculture      |
| cadmium and cadmium compounds   | 4                    | Department of Agriculture        | -   |
| cadmium and cadmium compounds   | 4                    | The Food and Drug Administration | -   |
| lead                            | 3                    | Department of Industrial Works   | -   |

No known specific national and/or regional regulations applicable to this product (including its ingredients).

## Section 16. Other information

[History](#)

[Date of printing](#) : 29.03.2019  
[Date of issue/Date of revision](#) : 29.03.2019  
[Date of previous issue](#) : 26.10.2017  
[Version](#) : 3.02

## Section 16. Other information

**Key to abbreviations** :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- UN = United Nations
- LogPow = logarithm of the octanol/water partition coefficient

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

### Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.