

SAFETY DATA SHEET



Jotun Protects Property

SeaForce Shield

Section 1. Identification

Product name : SeaForce Shield
Product code : 43004
Product description : Paint.
Product type : Liquid.
Other means of identification : Not available.

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

Identified uses

Other coatings and paints

Supplier : Jotun Australia Pty. Ltd.
59 Calarco Drive,
Derrimut, VIC 3026,
Australia

Phone: + 61 39314 0722
E-mail: SDSJotun@jotun.com

Emergency telephone number : Medical Emergencies 24 hours: Poisons Information Centre (Australia) 131 126

Section 2. Hazard(s) identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms



Signal word : DANGER

Hazard statements : H226 - Flammable liquid and vapor.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Section 2. Hazard(s) identification

Precautionary statements

- Prevention** : P280 - Wear protective gloves. Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapor.
- Response** : P391 - Collect spillage.
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338, P310 - 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 doctor.
- Storage** : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Not applicable.
- Other hazards which do not result in classification** : None known.
- In compliance** : IMO Antifouling System Convention compliant AFS/CONF/26 + IMO MEPC.331(76).

Section 3. Composition and ingredient information

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

Ingredient name	% (w/w)	CAS number
dicopper oxide	≥10 - <25	CAS: 1317-39-1
xylene	≥10 - ≤30	CAS: 1330-20-7
colophony	≥10 - ≤30	CAS: 8050-09-7
zineb	≤10	CAS: 12122-67-7
ethylbenzene	≤5	CAS: 100-41-4
zinc oxide	≤5	CAS: 1314-13-2
titanium dioxide	≤5	CAS: 13463-67-7
diiron trioxide	≤3	CAS: 1309-37-1
1-methoxy-2-propanol	≤3	CAS: 107-98-2
Solvent naphtha (petroleum), light arom.	≤3	CAS: 64742-95-6

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. 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** : May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

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.

Section 4. First aid measures

- 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. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO₂, powders, water spray.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Flammable liquid and vapor. 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 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.

- Hazchem code** : •3Y

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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialized 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".

- Environmental precautions** : Avoid dispersal of spilled 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.

Section 6. Accidental release measures

Methods and materials 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. Absorb with an inert 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 release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

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).

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. Do not get in eyes or on skin or clothing. Do not breathe vapor 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.
- 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

See Technical Data Sheet / packaging for further information.

Section 8. Exposure controls and 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).

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
dicopper oxide	ACGIH TLV (United States, 1/2025) [copper fume]
xylene	TWA 8 hours: 0.2 mg/m ³ . Form: Fume.
	Safe Work Australia (Australia, 11/2025) [Xylene (o-, m-, p- isomers)]
	STEL 15 minutes: 655 mg/m ³ .
	STEL 15 minutes: 150 ppm.
	TWA 8 hours: 350 mg/m ³ .
	TWA 8 hours: 80 ppm.
colophony	ACGIH TLV (United States, 1/2025) [resin acids] Skin sensitizer , Inhalation sensitizer.
	TWA 8 hours: 0.001 mg/m ³ (as total Resin acids). Form: Inhalable fraction.
zineb	DFG MAC-values list (Germany, 7/2025) [Zinc and its inorganic compounds]
	Develop C.
	PEAK 15 minutes: 0.4 mg/m ³ 4 times per shift [Interval: 1 hour]. Form: respirable fraction.
	TWA 8 hours: 2 mg/m ³ . Form: inhalable fraction.
	TWA 8 hours: 0.1 mg/m ³ . Form: respirable fraction.
	PEAK 15 minutes: 4 mg/m ³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction.
benzene, ethyl-	Safe Work Australia (Australia, 11/2025)
	STEL 15 minutes: 543 mg/m ³ .
	STEL 15 minutes: 125 ppm.
	TWA 8 hours: 434 mg/m ³ .
	TWA 8 hours: 100 ppm.
zinc oxide	Safe Work Australia (Australia, 11/2025) [Zinc oxide]
	STEL 15 minutes: 10 mg/m ³ . Form: Fume.
	TWA 8 hours: 10 mg/m ³ . Form: Dust.
	TWA 8 hours: 5 mg/m ³ . Form: Fume.
titanium dioxide	Safe Work Australia (Australia, 11/2025)
	TWA 8 hours: 10 mg/m ³ .
diiron trioxide	Safe Work Australia (Australia, 11/2025) [Iron oxide]
	TWA 8 hours: 5 mg/m ³ (as Fe). Form: Fume.
	Safe Work Australia (Australia, 11/2025) [Rouge dust]
	TWA 8 hours: 10 mg/m ³ . Form: Dust.
1-methoxy-2-propanol	Safe Work Australia (Australia, 11/2025)
	STEL 15 minutes: 553 mg/m ³ .
	STEL 15 minutes: 150 ppm.
	TWA 8 hours: 369 mg/m ³ .
	TWA 8 hours: 100 ppm.

Biological exposure indices

No exposure indices known.

Section 8. Exposure controls and 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, vapor 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 with an approved standard 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 ISO 374-1:2016.
- Not recommended, gloves(breakthrough time) < 1 hour: butyl rubber (> 0.4 mm)
- May be used, gloves(breakthrough time) 4 - 8 hours: neoprene (> 0.35 mm), PVC (> 0.5 mm)
- Recommended, gloves(breakthrough time) > 8 hours: fluor rubber (> 0.35 mm), nitrile rubber (> 0.75 mm), 4H/Silver Shield® (> 0.07 mm), Teflon (> 0.35 mm), polyvinyl alcohol (PVA) (> 0.3 mm)
- Body protection** : Use chemical-resistant protective suit / disposable overall.
- 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.

Section 8. Exposure controls and personal protection

- 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.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Red
- Odor** : Characteristic.
- Odor threshold** : Not applicable.
- pH** : Not applicable.
- Melting point** : Not applicable.
- Boiling point** : Not available.
- Flash point** : Closed cup: 27°C (80.6°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.584 to 1.589 g/cm³
- Solubility(ies)** :

Media	Result
cold water	Not soluble
hot water	Not soluble

- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

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 pressurize, 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: oxidizing 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

dicopper oxide

Result

Rat - Oral - LD50

1340 mg/kg

Rat - Inhalation - LC50 Dusts and mists

3.34 mg/l [4 hours]

Rat - Oral - LD50

4300 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes

Rabbit - Dermal - TDLo

4300 mg/kg

Toxic effects: Skin After topical exposure - Corrosive

Rat - Inhalation - LC50 Vapor

11 mg/l [4 hours]

Rat - Oral - LD50

1850 mg/kg

Toxic effects: Behavioral - Excitement Gastrointestinal - Hypermotility, diarrhea Gross Metabolite Changes - Weight loss or decreased weight gain

Rat - Oral - LD50

3500 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes

Rabbit - Dermal - LD50

>5000 mg/kg

Rat - Male - Inhalation - LC50 Vapor

11 mg/l [4 hours]

Rabbit - Dermal - LD50

13 g/kg

Rat - Oral - LD50

6600 mg/kg

Toxic effects: Brain and Coverings - Other degenerative changes Behavioral - General anesthetic Lung, Thorax, or Respiration - Dyspnea

xylene

zineb

benzene, ethyl-

1-methoxy-2-propanol

Conclusion/Summary [Product]

: Not available.

Skin corrosion/irritation

Product/ingredient name

xylene

Result

Rat - Skin - Mild irritant

Duration of treatment/exposure: 8 hours

Amount/concentration applied: 60 microliters

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Human - Skin - Mild irritant

Duration of treatment/exposure: 72 hours

Rabbit - Skin - Mild irritant

Amount/concentration applied: 500 mg

zinc oxide

titanium dioxide

1-methoxy-2-propanol

Conclusion/Summary [Product]

: Not available.

Serious eye damage/eye irritation

Product/ingredient name

Result

Section 11. Toxicological information

dicopper oxide

Rabbit - Eyes - Cornea opacity

OECD 405

Duration of treatment/exposure: 72 hours**Rabbit - Eyes - Redness of the conjunctivae**

OECD 405

Duration of treatment/exposure: 48 hours

xylene

Rabbit - Eyes - Mild irritantAmount/concentration applied: 87 milligrams

zinc oxide

Rabbit - Eyes - Mild irritantDuration of treatment/exposure: 24 hoursAmount/concentration applied: 500 mg

1-methoxy-2-propanol

Rabbit - Eyes - Mild irritantDuration of treatment/exposure: 24 hoursAmount/concentration applied: 500 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization**Product/ingredient name**

colophony

Result**Mammal - species unspecified - skin**Result: Sensitizing

zineb

Mammal - species unspecified - skinResult: Sensitizing**Skin**

Conclusion/Summary [Product] : Not available.

Ingredient name

colophony

Conclusion/Summary

May cause an allergic skin reaction.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not classified.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not classified.

Reproductive toxicity**Product/ingredient name**

zineb

Result**Mammal - species unspecified - Unreported**Developmental: Positive

Section 11. Toxicological information

Conclusion/Summary [Product] : Suspected of damaging the unborn child.

Specific target organ toxicity (single exposure)

Product/ingredient name

xylene

zineb

1-methoxy-2-propanol

Solvent naphtha (petroleum), light arom.

Result

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name

benzene, ethyl-

Result

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Aspiration hazard

Product/ingredient name

xylene

benzene, ethyl-

Solvent naphtha (petroleum), light arom.

Result

ASPIRATION HAZARD - Category 1

ASPIRATION HAZARD - Category 1

ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

: Causes serious eye damage.

Inhalation

: May cause respiratory irritation.

Skin contact

: Causes skin irritation. May cause an allergic skin reaction.

Ingestion

: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

: Adverse symptoms may include the following:
pain
watering
redness

Inhalation

: Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact

: Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion

: Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

: Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : 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.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SeaForce Shield	2237.1	7586.5	N/A	56.9	14.9
dicopper oxide	500	N/A	N/A	N/A	3.34
xylene	4300	1100	N/A	11	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
1-methoxy-2-propanol	6600	13000	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

dicopper oxide

Result

Acute - LC50 - Fresh water

Fish - Zebra danio - *Danio rerio*

0.075 mg/l [96 hours]

Effect: Mortality

Chronic - NOEC

Algae

0.001 mg/l

Chronic - NOEC

Algae

0.0052 mg/l

LC50

Fish - *Cyprinodon variegatus*

>0.173 mg/l [96 hours]

EC50

Daphnia

0.51 mg/l [48 hours]

xylene

Acute - LC50 - Marine water

Crustaceans - Daggerblade grass shrimp - *Palaemonetes pugio*

8500 µg/l [48 hours]

Effect: Mortality

Section 12. Ecological information

zineb

Acute - LC50 - Fresh waterFish - Fathead minnow - *Pimephales promelas*Age: 31 days; Size: 18.4 mm; Weight: 0.077 g

13400 µg/l [96 hours]

Effect: Mortality**Acute - LC50**

Fish - Trout

0.225 mg/l [96 hours]

Acute - LC50 - Fresh waterDaphnia - Water flea - *Daphnia magna*

970 to 1800 µg/l [48 hours]

Effect: Mortality**Chronic - NOEC - Fresh water**Algae - Green algae - *Chlorella vulgaris*

0.05 mg/l [96 hours]

Effect: Population**Chronic - NOEC - Fresh water**Algae - Green algae - *Scenedesmus quadricauda*

0.05 mg/l [96 hours]

Effect: Population**Acute - EC50 - Fresh water**Algae - Green algae - *Pseudokirchneriella subcapitata*

0.38 mg/l [96 hours]

Effect: Population

benzene, ethyl-

Acute - EC50

Daphnia

2.93 mg/l [48 hours]

Effect: Intoxication**Acute - LC50**

Fish

4.2 mg/l [96 hours]

Effect: Mortality**Acute - EC50 - Marine water**Algae - Diatom - *Skeletonema costatum*

7700 µg/l [96 hours]

Effect: Population

zinc oxide

Chronic - NOEC - Fresh waterAlgae - Green algae - *Pseudokirchneriella subcapitata* -

Exponential growth phase

0.02 mg/l [72 hours]

Effect: Growth**Acute - LC50 - Fresh water**

US EPA

Fish - Rainbow trout, donaldson trout - *Oncorhynchus mykiss*Weight: 0.78 g

1.1 ppm [96 hours]

Effect: Mortality

titanium dioxide

Acute - LC50 - Marine waterFish - Mummichog - *Fundulus heteroclitus*

>1000000 µg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Crustaceans - Water flea - *Ceriodaphnia dubia* - NeonateAge: <24 hours

3 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Daphnia - Water flea - *Daphnia pulex* - NeonateAge: <24 hours

6.5 mg/l [48 hours]

Effect: Mortality

Section 12. Ecological information

Solvent naphtha (petroleum), light arom.

Acute - LC50

Fish

<10 mg/l [96 hours]

Acute - EC50

Daphnia

<10 mg/l [48 hours]

Acute - IC50

Algae

<10 mg/l [72 hours]

Conclusion/Summary [Product] : Not available.**Ingredient name**

1-methoxy-2-propanol

Conclusion/Summary

Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
dicopper oxide	-	-	Not readily
xylene	-	-	Readily
benzene, ethyl-	-	-	Readily
zinc oxide	-	-	Not readily
Solvent naphtha (petroleum), light arom.	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3.12	8.1 to 25.9	Low
colophony	1.9 to 7.7	-	High
zineb	1.3	-	Low
benzene, ethyl-	3.6	-	Low
zinc oxide	-	28960	High
1-methoxy-2-propanol	<1	-	Low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	High

Mobility in soil**Soil/Water partition coefficient** : 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 minimized 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

Section 13. Disposal considerations

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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

Section 14. Transport information

	ADG	ADR/RID	IMDG	IATA
UN number	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	Paint	Paint	Paint	Paint
Transport hazard class(es)	3 	3  	3  	3 
Packing group	III	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	Hazchem code •3Y	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Hazard identification number 30 Tunnel code (D/E)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

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.

Transport in bulk according to IMO instruments : Not available.

Marine pollutant substances : dicopper oxide

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.

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

Marking : The environmental hazardous / marine pollutant mark is only applicable for packages containing more than 5 litres for liquids and 5 kg for solids.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

5

Model Work Health and Safety Regulations - Scheduled Substances

<u>Ingredient name</u>	<u>Schedule</u>
quartz, alveolar (<10 µm)	Restricted hazardous chemical [For abrasive blasting at a concentration of greater than 1%]

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Any other relevant information

History

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Key to abbreviations

ADG = Australian Dangerous Goods
 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
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 NOHSC = National Occupational Health and Safety Commission
 SUSMP = Standard for the Uniform Scheduling of Medicines and Poisons
 UN = United Nations

Procedure used to derive the classification

<u>Classification</u>	<u>Justification</u>
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Section 16. Any other relevant information

Disclaimer

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 data given 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.