# **SAFETY DATA SHEET**



#### SeaQuantum Pro U

## Section 1. Chemical product and company identification

Product name : SeaQuantum Pro U

Product code : 28900
Product type : Liquid.
Product description : Paint.

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

Use in coatings - Professional use

Supplier's details : Chokwang Jotun Ltd. 30th Block Jisa science park, 1205 Jisa-dong, Gangseo-ku,

Busan, South Korea Tel: + 82 51 797 6000 Fax: + 82 51 711 7735

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Emergency telephone number (with hours of

operation)

: +86 535 3088 586

## Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 5
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1

SKIN SENSITISATION - Category 1
CARCINOGENICITY - Category 2

REPRODUCTIVE TOXICITY - Category 2

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract

irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

**GHS label elements** 

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## Section 2. Hazards identification

#### **Hazard pictograms**











Signal word

: Danger.

**Hazard statements** 

H226 - Flammable liquid and vapour.

H302 + H332 - Harmful if swallowed or if inhaled.

H313 - May be harmful in contact with skin.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H335 - May cause respiratory irritation.

H351 - Suspected of causing cancer.

H361 - Suspected of damaging fertility or the unborn child.

H373 - May cause damage to organs through prolonged or repeated exposure.

(nervous system)

H410 - Very toxic to aquatic life with long lasting effects.

#### **Precautionary statements**

General

: Not applicable.

**Prevention** 

: P201 - Obtain special instructions before use.

P280 - Wear protective gloves, protective clothing and 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.

P260 - Do not breathe vapour.

P270 - Do not eat, drink or smoke when using this product.

Response

: P391 - Collect spillage.

P308 + P313 - IF exposed or concerned: Get medical advice or attention.

P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel

unwell. Wash with plenty of water.

P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. 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.

In compliance

: IMO Antifouling System Convention compliant AFS/CONF/26 + IMO MEPC.331(76).

Physical and chemical

hazards

: Flammable liquid and vapour.

**Health hazards** 

: Harmful if swallowed or if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

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# Section 3. Composition/information on ingredients

Substance/mixture

Other means of identification

: Mixture

: Not available.

Ingredient name	%	CAS number
dicopper oxide	≤50	1317-39-1
xylene	≤25	1330-20-7
colophony	≤10	8050-09-7
ethylbenzene	<10	100-41-4
zineb	≤5	12122-67-7
copper pyrithione	<3	14915-37-8
zinc oxide	≤3	1314-13-2
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. 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.

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#### Section 4. First aid measures

#### 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 : May be harmful in contact with skin. 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

**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

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

media

**Unsuitable extinguishing** 

media

: Do not use water jet.

# Specific hazards arising from the chemical

: 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.

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# Section 5. Firefighting measures

#### **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".

#### **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 noncombustible, 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

#### **Protective measures**

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a

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# Section 7. Handling and storage

#### Advice on general occupational hygiene

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.

: 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.

# including any incompatibilities

Conditions for safe storage, : 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 wellventilated 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.

## Section 8. Exposure controls/personal protection

#### **Control parameters**

#### Occupational exposure limits

Ingredient name	Exposure limits
dicopper oxide	GBZ 2.1 (China, 11/2022). [Copper] PC-TWA: 0.2 mg/m³, (as Cu) 8 hours. Form: Fume
xylene	GBZ 2.1 (China, 11/2022). [Xylene] PC-STEL: 100 mg/m³ 15 minutes. PC-TWA: 50 mg/m³ 8 hours.
colophony	ACGIH TLV (United States, 7/2023). [resin acids] Skin sensitiser. Inhalation sensitiser.  TWA: 0.001 mg/m³, (as total Resin acids) 8
	hours. Form: Inhalable fraction
ethylbenzene	GBZ 2.1 (China, 11/2022). PC-TWA: 100 mg/m³ 8 hours. PC-STEL: 150 mg/m³ 15 minutes.
1-methoxy-2-propanol	ACGIH TLV (United States, 7/2023).  STEL: 369 mg/m³ 15 minutes.  STEL: 100 ppm 15 minutes.  TWA: 184 mg/m³ 8 hours.  TWA: 50 ppm 8 hours.

#### **Biological exposure indices**

Ingredient name	Exposure indices
xylene	GBZ 2.1 (China, 11/2022)  BEI: 0.4 g/L, methylhippuric acids [in urine].  Sampling time: end of work shift.  BEI: 0.3 g/g Cr, methylhippuric acids [in urine]. Sampling time: end of work shift.
ethylbenzene	GBZ 2.1 (China, 11/2022)  BEI: 0.8 g/g Cr, mandelic acid and phenylglyoxylic acid (MA and PGA) [in urine]. Sampling time: end of work shift.

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## 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.

# **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 ISO 16321-1:2022 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

: 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: neoprene (> 0.35 mm), butyl rubber (> 0.4 mm), PVC (> 0.5 mm)

Recommended, gloves(breakthrough time) > 8 hours: fluor rubber (> 0.35 mm), nitrile rubber (> 0.75 mm), Teflon (> 0.35 mm), 4H/Silver Shield® (> 0.07 mm), polyvinyl alcohol (PVA) (> 0.3 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

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.

#### **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.

#### 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.

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# Section 8. Exposure controls/personal protection

**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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**Appearance** 

Physical state : Liquid.
Colour : Red

Odour : Characteristic.
Odour threshold : Not applicable.

PH : Not applicable.

Melting point/freezing point : Not applicable.

Boiling point, initial boiling point, and boiling range

: Lowest known value: 120.17°C (248.3°F) (1-methoxy-2-propanol). Weighted

average: 135.22°C (275.4°F)

Flash point : Closed cup: 27°C (80.6°F)

**Evaporation rate** : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.79compared with

butyl acetate

Flammability : Not applicable.

Lower and upper explosion limit/flammability limit

: Greatest known range: Lower: 1.48% Upper: 13.74% (1-methoxy-2-propanol)

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)

Relative vapour density : Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.67 (Air = 1)

**Density** : 1.68 g/cm<sup>3</sup>

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

Solubility in water : Not available.

Partition coefficient: n- : Not available.

octanol/water

: Lowest known value: 270°C (518°F) (1-methoxy-2-propanol).

**Decomposition temperature**: Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

**Particle characteristics** 

**Auto-ignition temperature** 

Median particle size : Not applicable.

No additional information.

# 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.

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# Section 10. Stability and reactivity

**Incompatible materials** 

: Reactive or incompatible with the following materials: oxidising materials

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	1340 mg/kg	-
xylene	LC50 Inhalation Vapour	Rat	11 mg/l	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
ethylbenzene	LC50 Inhalation Vapour	Rat - Male	11 mg/l	4 hours
-	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
zineb	LD50 Oral	Rat	1850 mg/kg	-
copper pyrithione	LC50 Inhalation Dusts and mists	Rat	70 mg/m³	4 hours
	LD50 Dermal	Rabbit	300 mg/kg	-
	LD50 Oral	Rat	200 mg/kg	-
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
,	LD50 Oral	Rat	6600 mg/kg	-

#### **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
dicopper oxide	Eyes - Cornea opacity	Rabbit	-	72 hours	-
	Eyes - Redness of the conjunctivae	Rabbit	-	48 hours	-
xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
copper pyrithione	Eyes - Severe irritant	Mammal - species unspecified	-	-	-
	Skin - Irritant	Mammal - species unspecified	-	-	-
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
1-methoxy-2-propanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

#### **Sensitisation**

Product/ingredient name	Route of exposure	Species	Result
colophony	skin	Mammal - species unspecified	Sensitising
zineb	skin	Mammal - species unspecified	Sensitising

### **Mutagenicity**

Not available.

#### Carcinogenicity

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# Section 11. Toxicological information

Not available.

#### **Classification**

Product/ingredient name	IARC
ethylbenzene	2B
zineb	3

#### **Reproductive toxicity**

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
zineb	-	-		Mammal - species unspecified	Route of exposure unreported	-
copper pyrithione	-	-	Positive	unspecified	Route of exposure unreported	-

#### **Teratogenicity**

Not available.

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

Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 3		Respiratory tract irritation
zineb	Category 3		Respiratory tract irritation
copper pyrithione	Category 3		Respiratory tract irritation
1-methoxy-2-propanol	Category 3	-	Narcotic effects

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

Product/ingredient name	3 3 3	Route of exposure	Target organs
ethylbenzene copper pyrithione	Category 2 Category 1	-	- nervous system

#### **Aspiration hazard**

Product/ingredient name	Result
	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

**Information on likely routes**: Not available.

of exposure

#### Potential acute health effects

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

Inhalation : Harmful if inhaled. May cause respiratory irritation.

: May be harmful in contact with skin. Causes skin irritation. May cause an allergic **Skin contact** 

skin reaction.

Ingestion : Harmful if swallowed.

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

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

pain watering redness

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# Section 11. Toxicological information

**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

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

stomach pains reduced foetal weight increase in foetal deaths skeletal malformations

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

Short term exposure

Potential immediate

: Not available.

effects

Potential delayed effects: Not available.

Long term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General: May cause damage to organs through prolonged or repeated exposure. 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 : Suspected of damaging fertility or the unborn child.

#### **Numerical measures of toxicity**

#### **Acute toxicity estimates**

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
SeaQuantum Pro U dicopper oxide			N/A N/A	70.8 N/A	2.1 3.34
xylene copper pyrithione 1-methoxy-2-propanol	N/A 200 6600	300	N/A N/A N/A	11 N/A N/A	N/A 0.07 N/A

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# Section 12. Ecological information

#### **Toxicity**

Product/ingredient name	Result	Species	Exposure
dicopper oxide	Acute LC50 0.075 mg/l Fresh water	Fish - Danio rerio	96 hours
	Chronic NOEC 0.001 mg/l	Algae	_
	Chronic NOEC 0.0052 mg/l	Algae	-
xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes	48 hours
		pugio	
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
ethylbenzene	Acute EC50 7700 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 2.93 mg/l	Daphnia	48 hours
	Acute LC50 4.2 mg/l	Fish	96 hours
zineb	Acute EC50 0.38 mg/l Fresh water	Algae - Pseudokirchneriella	96 hours
		subcapitata	
	Acute LC50 970 to 1800 μg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.225 mg/l	Fish	96 hours
	Acute LC50 20.8 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.05 mg/l Fresh water	Algae - Chlorella vulgaris	96 hours
	Chronic NOEC 0.05 mg/l Fresh water	Algae - Scenedesmus	96 hours
		quadricauda	
copper pyrithione	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
	Chronic NOEC 0.00046 mg/l	Algae - Skeletonema costatum	120 hours
zinc oxide	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.02 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours

#### Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
dicopper oxide xylene	-		Not readily Readily
ethylbenzene zinc oxide	-		Readily Not readily

#### **Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
xylene	3.12	8.1 to 25.9	low
colophony	1.9 to 7.7	-	high
ethylbenzene	3.6	-	low
zineb	1.3	-	low
zinc oxide	-	28960	high
1-methoxy-2-propanol	<1	-	low

#### **Mobility in soil**

Soil/water partition coefficient (Koc)

: Not available.

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

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## 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**

	China	UN	IMDG	IATA
UN number	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	Paint	Paint	Paint. Marine pollutant (dicopper oxide)	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. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.

#### **Additional information**

**IMDG** 

: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, S-E

**IATA** 

The environmentally hazardous substance mark may appear if required by other transportation regulations.

**ADR / RID** 

Tunnel restriction code: (D/E) Hazard identification number: 30

Marking

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

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.

#### **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.

Incompatible materials

: Reactive or incompatible with the following materials: oxidising materials

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# **Section 14. Transport information**

Transport in bulk according : Not available. to IMO instruments

## Section 15. Regulatory information

#### Safety, health and environmental regulations specific for the product:

#### Law of the People's Republic of China on the Prevention and Control of Occupational Diseases

Regulations on the Control over Safety of Dangerous Chemicals

Measures for Environmental Management of New Chemical Substances

Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes Safety regulations for the use of chemicals in the workplace

General Rule for Classification and Hazard Communication of Chemicals

Classification and code of dangerous goods

#### **List of Goods banned for Importing**

None of the components are listed.

#### **Drug Precursors Requiring an Import/Export License**

None of the components are listed.

#### **Inventory of Hazardous Chemicals**

Ingredient name	CAS number		Reference number
xylene	1330-20-7	Listed	358
ethylbenzene	100-41-4	Listed	2566

#### **List of Explosive Precursors**

None of the components are listed.

#### **List of Goods banned for Exporting**

None of the components are listed.

#### List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

None of the components are listed.

#### Catalogue and classification of drug precursor chemicals

None of the components are listed.

#### **Inventory of highly toxic articles**

None of the components are listed.

#### Catalogue of Hazardous Chemicals of Priority Management

None of the components are listed.

#### Catalogue of Occupational Disease Hazard Factors - Dust

Ingredient name	Status
titanium dioxide	Listed
diiron trioxide	Listed

#### Catalogue of Occupational Disease Hazard Factors - Chemical Factors

Ingredient name	Status
dicopper oxide	Listed
xylene	Listed
ethylbenzene	Listed
copper pyrithione	Listed
zinc oxide	Listed

#### **International regulations**

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

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# Section 15. Regulatory information

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. Other information

**History** 

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**Key to abbreviations** : 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)

N/A = Not available SGG = Segregation Group UN = United Nations

#### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
ACUTE TOXICITY (oral) - Category 4	Calculation method
ACUTE TOXICITY (dermal) - Category 5	Calculation method
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1	Calculation method
SKIN SENSITISATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
REPRODUCTIVE TOXICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2	Calculation method
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1	Calculation method
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1	Calculation method

References : Not available.

▼ Indicates information that has changed from previously issued version.

**Notice to reader** 

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## Section 16. Other information

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.

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