JOTUN

Jotun Protects Property

SAFETY DATA SHEET



Section 1. Identifie	cation
Product name	: 水解型无锡自抛光防污漆 (P) (港版)
Product code	: 21700
Product type	: Liquid.
Product description	: Paint.
Relevant identified uses of t	he substance or mixture and uses advised against
	Identified uses
Use in coatings - Industrial us Use in coatings - Professiona	
Supplier's details	 : 佐敦涂料(张家港)有限公司 江苏省张家港保税区扬子江化学工业园长江路15号 215634 电话: +86 512 58937988 传真: +86 512 58937986 Jotun Coatings (Zhangjiagang) Co. Ltd No.15 Changjiang Road Jiangsu Yangtze River International Chemical Industry Park, Zhangjiagang Free Trade Zone, Jiangsu Province 215634 Tel: +86 512 58937988
	Fax: +86 512 58937986 中远佐敦船舶涂料(青岛)有限公司 中国山东省青岛市高新技术产业开发区春阳路南侧、华贯路东侧, 266109 总机电话: +86-532-68689888 总机传真: +86-532-66726750
	Jotun COSCO Marine Coatings (Qingdao) Co. Ltd. South of Chunyang Road and East of Huaguan Road, Qingdao National High-tech Industrial Development Zone, Qingdao 266109, China Tel: +86-532-68689888 Fax: +86-532-66726750
Emergency telephone number	SDSJotun@jotun.com Emergency Services for Chemical Incident of China. Tel: +86 532 83889090

Section 2. Haza	rds identification
Classification of the substance or mixture	 FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN SENSITISATION - Category 1 REPRODUCTIVE TOXICITY (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 ACUTE AQUATIC HAZARD - Category 1

LONG-TERM AQUATIC HAZARD - Category 1

GHS label elements

Date of issue	: 29.03.2019
---------------	--------------

Section 2. Hazards identification

Hazard pictograms	
Signal word	: Danger.
Hazard statements	 H226 - Flammable liquid and vapour. H302 + H332 - Harmful if swallowed or if inhaled. H318 - Causes serious eye damage. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H361 - Suspected of damaging the unborn child. H335 - May cause respiratory irritation. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements	
Prevention	 P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing vapour. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 - Keep container tightly closed. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling. P391 - Collect spillage. P202 + D213 - IE expanded or experimed; Cet medical attention
	 P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P303 + P313 - If skin irritation or rash occurs: Get medical 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 physician.
Storage	: P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Additional information	: Registration No. 2P319
In compliance	: IMO Antifouling System Convention compliant (AFS/CONF/26).

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	÷	21700

Section 3. Composition/information on ingredients

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

Section 4. First aid measures

Eye contact	lverse symptoms may include the following: in atering dness	
Inhalation	lverse symptoms may include the following: spiratory tract irritation ughing duced foetal weight crease in foetal deaths eletal malformations	
Skin contact	lverse symptoms may include the following: in or irritation dness stering may occur duced foetal weight crease in foetal deaths eletal malformations	
Ingestion	lverse symptoms may include the following: omach pains duced foetal weight crease in foetal deaths eletal malformations	
Indication of immediate medical attention and special treatment needed, if necessary		
Notes to physician	case of inhalation of decomposition products in a fire, symptoms may be dela be exposed person may need to be kept under medical surveillance for 48 hou	
Specific treatments	o specific treatment.	
Protection of first-aiders	action shall be taken involving any personal risk or without suitable training. suspected that fumes are still present, the rescuer should wear an appropriate ask or self-contained breathing apparatus. It may be dangerous to the persor oviding aid to give mouth-to-mouth resuscitation. Wash contaminated clothing proughly with water before removing it, or wear gloves.	ie n
See toxicological information	tion 11)	

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO ₂ , 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.

Personal precautions, protec	:tiv	e 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 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

Control parameters

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

Ingredient name	Exposure limits
dicopper oxide	GBZ 2.1 (China, 4/2007).
	PC-TWA: 0.2 mg/m ³ , (as Cu) 8 hours.
	Form: Fume
xylene	GBZ 2.1 (China, 4/2007).
	PC-STEL: 100 mg/m ³ 15 minutes.
	PC-TWA: 50 mg/m ³ 8 hours.
zinc oxide	GBZ 2.1 (China, 4/2007).
	PC-STEL: 5 mg/m ³ 15 minutes. Form:
	PC-TWA: 3 mg/m ³ 8 hours. Form:

Section 8. Exposure controls/personal protection

Section 8. Exposu	e controls/personal protection	
ethylbenzene colophony	GBZ 2.1 (China, 4/2007). PC-TWA: 100 mg/m ³ 8 hours. PC-STEL: 150 mg/m ³ 15 minutes. ACGIH TLV (United States, 3/2018). Skin sensitiser. Inhalation sensitiser.	
1-methoxy-2-propanol	ACGIH TLV (United States, 3/2018). STEL: 369 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 184 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.	
Solvent naphtha (petroleum),	ight arom. ACGIH TLV (United States, 1/2005). TWA: 123 mg/m ³ 8 hours. Form: All forms TWA: 25 ppm 8 hours. Form: All forms	
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectivenes 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 control 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 ensur 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.	
ndividual protection measur	<u>S</u>	
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 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 and used 	

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

Section 8. Exposure controls/personal protection

	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)
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.

Section 9. Physical and chemical properties

<u>Appearance</u>		
Physical state	:	Liquid.
Colour	1	Various
Odour	1	Characteristic.
Odour threshold	1	Not available.
рН	1	Not applicable.
Melting point	1	Not applicable.
Boiling point	1	Lowest known value: 120.17°C (248.3°F) (1-methoxy-2-propanol). Weighted average: 137.21°C (279°F)
Flash point	1	Closed cup: 27°C (80.6°F)
Burning time	:	Not applicable.
Burning rate	1	Not applicable.
Evaporation rate	;	Highest known value: 0.84 (ethylbenzene) Weighted average: 0.79compared with butyl acetate
Flammability (solid, gas)	1	Not applicable.
Lower and upper explosive (flammable) limits	:	0.8 - 13.74%
Vapour pressure	1	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: 3.66 (Air = 1)
Relative density	1	1.73 g/cm³
Solubility	1	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n- octanol/water	:	Not available.
Auto-ignition temperature	1	Lowest known value: 270°C (518°F) (1-methoxy-2-propanol).
Decomposition temperature	:	Not available.
SADT	:	Not available.
Viscosity	:	Kinematic (40°C): >0.205 cm²/s (>20.5 mm²/s)

: No specific test data related to reactivity available for this product or its ingredients.
: The product is stable.
: Under normal conditions of storage and use, hazardous reactions will not occur.
: 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.
 Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
 Under normal conditions of storage and use, hazardous decomposition products should not be produced.
-

Fine dust clouds may form explosive mixtures with air.

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	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
ethylbenzene	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
-	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
zineb	LD50 Oral	Rat	1850 mg/kg	-
bis(1-hydroxy-1h-pyridine-	LC50 Inhalation Dusts and mists	Rat	70 mg/m³	4 hours
2-thionato-o,s)copper			Ū,	
	LD50 Oral	Rat	1075 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
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
1-methoxy-2-propanol	Category 3	Not applicable.	Narcotic effects
Solvent naphtha (petroleum), light arom.	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

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

Aspiration hazard

Name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes : Not available. of exposure

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

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

Delayed and immediate effects as well as chronic effects from short and long-term exposure			
Short term exposure			
Potential immediate effects	: Not available.		

Date of issue	1	29.03.2019

Section 11. Toxicological information

Potential delayed effects	4	Not available.
<u>Long term exposure</u>		
Potential immediate effects	1	Not available.
Potential delayed effects	:	Not available.
Potential chronic health effe	ect	<u>s</u>
Not available.		
General	:	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	1	No known significant effects or critical hazards.
Mutagenicity	1	No known significant effects or critical hazards.
Teratogenicity	1	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	1463.5 mg/kg
Dermal	7194.3 mg/kg
Inhalation (vapours)	53.96 mg/l
Inhalation (dusts and mists)	2.623 mg/l

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
zinc oxide	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
ethylbenzene	Acute EC50 7.2 mg/l	Algae	48 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 subcapitata	96 hours
	Acute LC50 970 to 1800 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.225 mg/l	Fish	96 hours
	Chronic NOEC 0.05 mg/l Fresh water	Algae - Chlorella vulgaris	96 hours
bis(1-hydroxy-1h-pyridine- 2-thionato-o,s)copper	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
Solvent naphtha (petroleum), light arom.	Acute EC50 <10 mg/l	Daphnia	48 hours
-	Acute IC50 <10 mg/l	Algae	72 hours
	Acute LC50 <10 mg/l	Fish	96 hours

Persistence/degradability

Page: 11/13

Section 12. Ecological information

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

Bioaccumulative potential

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

Mobility in soil

Soil/water partition coefficient (Koc)

: 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 nonrecyclable 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

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.

	UN	IMDG	ΙΑΤΑ
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
Date of issue	: 29.03.2019		

Section 14. Transport information

Transport hazard class(es)	3		3
Packing group	Ш		Ш
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
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 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 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.
Additional information	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-E, <u>S-E</u>	The environmentally hazardous substance mark may appear if required by other transportation regulations.
Marking :	The environmental hazardous / more than 5 litres for liquids and		licable for packages containing
ADR / RID :	Tunnel restriction code: (D/E) Hazard identification number: 30 Special provisions: 640E)	

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.

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.

Section 16. Other information

<u>History</u>

Date of printing

: 29.03.2019

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

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.