

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830 - New Zealand

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

1.1 Product identifier

Product name : HEMPEL'S ANTIFOULING OLYMPIC 86901
Product identity : 8690119990
Product type : antifouling paint

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

Field of application : ships and shipyards.
Identified uses : Industrial applications, Used by spraying.

1.3 Details of the supplier of the safety data sheet

Company details :	HEMPEL (New Zealand) 4 Bostock Place, East Tamaki 2013 Auckland, New Zealand Tel: +64 (0) 9 2740201 Fax: +64 (0) 9 2740206 Email: dpat@hempel.com	Emergency telephone number Poisons Centre New Zealand: 0800 764 766 See section 4 First aid measures.
Date of Preparation :	31 August 2018	
Date of previous issue	No previous validation.	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

GHS Classification

FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

2.2 Label elements

Hazard pictograms :



Signal word : Danger
Hazard statements : Flammable liquid and vapor.
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention : Avoid breathing vapors, spray or mists. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : 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 : Keep cool.

Hazardous ingredients : copper (I) oxide
xylene
colophony
cupric oxide
copper (metallic)

2.3 Other hazards

SECTION 2: Hazards identification

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product/ingredient name	Identifiers	%	GHS Classification
copper (I) oxide	1317-39-1	≥25 - ≤50	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1 FLAMMABLE LIQUIDS - Category 3
xylene	1330-20-7	≥10 - ≤25	ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
zinc oxide	1314-13-2	≥10 - ≤25	SKIN SENSITIZATION - Category 1 FLAMMABLE LIQUIDS - Category 2
colophony	8050-09-7	≥10 - ≤25	ACUTE TOXICITY (inhalation) - Category 4
ethylbenzene	100-41-4	≥3 - ≤5	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2 ASPIRATION HAZARD - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2 FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 3 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1 FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
C10 aromatics hydrocarbons, <1% naphthalene	64742-94-5	≥1 - ≤3	
o-xylene	95-47-6	≥1 - ≤3	
cupric oxide	1317-38-0	≥1 - ≤3	
copper (metallic)	7440-50-8	≥1 - ≤2.5	
4-methylpentan-2-one	108-10-1	≥1 - ≤3	

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

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.

SECTION 4: First aid measures

4.1 Description of first aid measures

General :	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 112 and give immediate treatment (first aid).
Eye contact :	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation :	Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and get medical attention immediately.
Skin contact :	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

SECTION 4: First aid measures

Ingestion :	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting unless directed to do so by medical personnel. Lower the head so that vomit will not re-enter the mouth and throat.
Protection of first-aiders :	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact :	Causes serious eye damage.
Inhalation :	No known significant effects or critical hazards.
Skin contact :	Causes skin irritation. Defatting to the skin. 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 :	No specific data.
Skin contact :	Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur
Ingestion :	Adverse symptoms may include the following: stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician :	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments :	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Extinguishing media :	Recommended: alcohol resistant foam, CO ₂ , powders, water spray. Not to be used: waterjet.
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5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture :	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 combustion products :	Decomposition products may include the following materials: carbon oxides metal oxide/oxides

5.3 Advice for firefighters

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. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid all direct contact with the spilled material. Exclude sources of ignition and be aware of explosion hazard. Ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. 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. 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). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should be used only in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. No sparking tools should be used.

Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

See separate Product Data Sheet for recommendations or industrial sector specific solutions.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Product/ingredient name	Exposure limit values
xylene	NZ HSWA 2015 (New Zealand, 11/2017). WES-TWA: 50 ppm 8 hours. WES-TWA: 217 mg/m ³ 8 hours.
zinc oxide	NZ HSWA 2015 (New Zealand, 11/2017). WES-STEL: 10 mg/m ³ 15 minutes. Form: Dust and fumes WES-TWA: 3 mg/m ³ 8 hours. Form: The value for respirable dust.
colophony	ACGIH TLV (United States, 3/2017). Skin sensitizer. Inhalation sensitizer.
wollastonite	ACGIH TLV (United States, 3/2017). TWA: 1 mg/m ³ 8 hours. Form: Inhalable fraction
ethylbenzene	NZ HSWA 2015 (New Zealand, 11/2017). WES-STEL: 543 mg/m ³ 15 minutes. WES-STEL: 125 ppm 15 minutes. WES-TWA: 434 mg/m ³ 8 hours. WES-TWA: 100 ppm 8 hours.
C10 aromatics hydrocarbons, <1% naphthalene	ACGIH TLV (United States). TWA Tentativ: 25 ppm 8 hours.
carbonblack	NZ HSWA 2015 (New Zealand, 11/2017).

SECTION 8: Exposure controls/personal protection

o-xylene	WES-TWA: 3 mg/m ³ 8 hours. NZ HSWA 2015 (New Zealand, 11/2017). WES-TWA: 217 mg/m ³ 8 hours. WES-TWA: 50 ppm 8 hours.
copper (metallic)	NZ HSWA 2015 (New Zealand, 11/2017). WES-TWA: 1 mg/m ³ , (as Cu) 8 hours. Form: Dusts and Mists WES-TWA: 0.2 mg/m ³ , (as Cu) 8 hours. Form: Fume
4-methylpentan-2-one	NZ HSWA 2015 (New Zealand, 11/2017). WES-TWA: 50 ppm 8 hours. WES-TWA: 205 mg/m ³ 8 hours. WES-STEL: 307 mg/m ³ 15 minutes. WES-STEL: 75 ppm 15 minutes.

Recommended monitoring procedures

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

8.2 Exposure controls

Appropriate engineering controls

Arrange sufficient ventilation by local exhaust ventilation and good general ventilation to keep the airborne concentrations of vapors or dust lowest possible and below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Individual protection measures

General :

Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.



Hygiene measures :

Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

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.

Hand protection :

Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.

Since the actual work situation is unknown. Supplier of gloves should be contacted in order to find the appropriate type. Below listed glove(s) should be regarded as generic advice:

Recommended: Silver Shield / Barrier / 4H gloves, polyvinyl alcohol (PVA), Viton®

May be used: nitrile rubber

Short term exposure: neoprene rubber, butyl rubber, natural rubber (latex), polyvinyl chloride (PVC)

Body protection :

Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product.

Wear suitable protective clothing. Always wear protective clothing when spraying.

Respiratory protection :

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If working areas have insufficient ventilation: When the product is applied by means that will not generate an aerosol such as, brush or roller wear half or totally covering mask equipped with gas filter of type A, when grinding use particle filter of type P. Be sure to use an approved/certified respirator or equivalent.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state :	Liquid.
Color :	Black
Odor :	Solvent-like
pH :	Testing not relevant or not possible due to nature of the product.
Melting point/freezing point :	439.835°C This is based on data for the following ingredient: copper (I) oxide
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.
Flash point :	Closed cup: 25°C (77°F)
Evaporation rate :	Testing not relevant or not possible due to nature of the product.
Flammability :	Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. Flammable in the presence of the following materials or conditions: oxidizing materials. Slightly flammable in the presence of the following materials or conditions: reducing materials.
Lower and upper explosive (flammable) limits :	0.5 - 8 vol %
Vapor pressure :	Testing not relevant or not possible due to nature of the product.
Vapor density :	Testing not relevant or not possible due to nature of the product.
Relative density :	1.764 g/cm ³
Solubility(ies) :	Partially soluble in the following materials: cold water and hot water.
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Testing not relevant or not possible due to nature of the product.
Decomposition temperature :	Testing not relevant or not possible due to nature of the product.
Viscosity :	Aspiration hazard (H304) Not classified. Testing not relevant due to nature of the product.
Explosive properties :	Slightly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

9.2 Other information

Solvent(s) % by weight :	Weighted average: 26 %
Water % by weight :	Weighted average: 0 %
VOC content :	451.8 g/l
TOC Content :	Weighted average: 401 g/l
Solvent Gas :	Weighted average: 0.102 m ³ /l

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

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.

10.5 Incompatible materials

Highly reactive or incompatible with the following materials: oxidizing materials, reducing materials and acids.
Reactive or incompatible with the following materials: organic materials, alkalis and moisture.

10.6 Hazardous decomposition products

SECTION 10: Stability and reactivity

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:

Decomposition products may include the following materials: carbon oxides metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Exposure to component solvent vapor concentrations may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
8690119990	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
copper (I) oxide	LC50 Inhalation Dusts and mists	Rat	3.34 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	1340 mg/kg	-
xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	6350 ppm	4 hours
	LD50 Dermal	Rabbit	>4200 mg/kg	-
	LD50 Oral	Rat	3523 mg/kg	-
zinc oxide	LC50 Inhalation Dusts and mists	Rat	>5.7 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
colophony	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
C10 aromatics hydrocarbons, <1% naphthalene	LD50 Oral	Rat	5000 mg/kg	-
o-xylene	LC50 Inhalation Vapor	Rat	21.5 mg/l	4 hours
	LD50 Dermal	Rabbit	>4300 mg/kg	-
	LD50 Oral	Rat	3567 mg/kg	-
copper (metallic)	LC50 Inhalation Dusts and mists	Rat	1.5 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	TDLo Oral	Human	0.01 mg/kg	-
4-methylpentan-2-one	LD Dermal	Rabbit	>3 g/kg	-

Acute toxicity estimates

Route	ATE value
Inhalation (gases)	42887.8 ppm
Inhalation (vapors)	260.7 mg/l
Inhalation (dusts and mists)	11.29 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
copper (I) oxide	Eyes - Irritant	Rabbit	-	-
xylene	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams
ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
	Respiratory - Mild irritant	Rabbit	-	-
	Eyes - Mild irritant	Rabbit	-	-
C10 aromatics hydrocarbons, <1% naphthalene	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
C10 aromatics hydrocarbons, <1% naphthalene o-xylene	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
4-methylpentan-2-one	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	hearing organs

Aspiration hazard

Product/ingredient name	Result
ethylbenzene C10 aromatics hydrocarbons, <1% naphthalene o-xylene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential chronic health effects

Sensitization : Contains rosin. May produce an allergic reaction.

Other information : No additional known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Do not allow to enter drains or watercourses. Very toxic to aquatic life with long lasting effects.

Product/ingredient name	Result	Species	Exposure
copper (I) oxide	Acute EC50 30 µg/l Fresh water Acute EC50 0.042 mg/l Fresh water Acute LC50 350 µg/l Marine water	Algae - Pseudokirchneriella subcapitata Daphnia - Daphnia similis Crustaceans - Balanus improvisus - Nauplii	4 days 48 hours 48 hours
	Acute LC50 0.075 mg/l Fresh water Chronic IC10 0.009 mg/l Fresh water	Fish - Danio rerio Algae - Pseudokirchneriella subcapitata - Exponential growth phase	96 hours 96 hours
zinc oxide	Acute EC50 0.17 mg/l	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute EC50 1 mg/l	Daphnia - Pseudokirchneriella subcapitata - Exponential growth phase	48 hours
colophony	Acute LC50 24600 µg/l Fresh water Acute EC50 >1000 mg/l Acute EC50 911 mg/l Acute LC50 >1000 mg/l	Daphnia - Daphnia magna - Neonate Algae Daphnia	48 hours 72 hours 48 hours
ethylbenzene	Chronic NOEC <1000 µg/l Fresh water	Fish	96 hours
copper (metallic)	Acute EC50 1100 µg/l Fresh water Acute EC50 2.1 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata Aquatic plants - Lemna minor	96 hours 4 days
	Acute IC50 13 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 5.4 mg/l Marine water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water Acute LC50 7.56 µg/l Marine water Chronic NOEC 2.5 µg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Crustaceans - Amphipoda - Adult	48 hours
	Chronic NOEC 0.02 mg/l Fresh water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2 µg/l Fresh water Chronic NOEC 0.8 µg/l Fresh water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
4-methylpentan-2-one	Chronic NOEC 7800 - 39000 µg/l Fresh water Chronic NOEC 168 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum Crustaceans - Cambarus bartonii - Mature	3 days 21 days
		Daphnia - Daphnia magna Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	21 days 6 weeks
		Daphnia - Daphnia magna Fish - Pimephales promelas - Embryo	21 days 33 days

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
xylylene	-	>60 % - Readily - 28 days	-	-
colophony	-	64 % - Not readily - 28 days	-	-
ethylbenzene	-	>70 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylylene	-	-	Readily
colophony	-	-	Not readily
ethylbenzene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylylene	3.12	8.1 - 25.9	low
zinc oxide	2.2	60960	high
colophony	1.9 - 7.7	56.3	low
ethylbenzene	3.6	-	low
C10 aromatics hydrocarbons, <1% naphthalene	2.8 - 6.5	99 - 5780	high
o-xylene	3.12	8.1 - 25.9	low
4-methylpentan-2-one	1.9	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : No known data available in our database.

Mobility : No known data available in our database.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods





The generation of waste should be avoided or minimized wherever possible. Residues of the product is listed as hazardous waste. Dispose of according to all state and local applicable regulations. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Spillage, remains, discarded clothes and similar should be discarded in a fireproof container.

Packaging

The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

Transport may take place according to national regulation NZS for transport by road and train, IMDG for transport by sea, IATA for transport by air.

	14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env*	Additional information
NZS Class	UN1263	PAINT	3  	III	Yes.	<u>Hazchem code</u> 3Y
IMDG Class	UN1263	PAINT. (copper (I) oxide)	3  	III	Yes.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency schedules</u> F-E, S-E

SECTION 14: Transport information

IATA Class	UN1263 PAINT	3		III	Yes. The environmentally hazardous substance mark may appear if required by other transportation regulations.
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PG* : Packing group

Env.* : Environmental hazards

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material is classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 and has been classified according to the Hazardous Substances (Classifications) Regulations 2001.

This material is classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

HSNO Classification

3.1 - FLAMMABLE LIQUIDS - Category C

6.1 - ACUTE TOXICITY (inhalation) - Category D

6.3 - SKIN IRRITATION - Category A

6.4 - EYE IRRITATION - Category A (Irritant)

6.5 - SENSITIZATION - Category B (Skin)

6.7 - CARCINOGENICITY - Category B

6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY (Fertility) - Category B

6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY (Unborn child) - Category B

6.9 - SPECIFIC TARGET ORGAN TOXICITY (SINGLE OR REPEATED EXPOSURE) - Category B

9.1 - AQUATIC ECOTOXICITY - Category A

9.3 - TERRESTRIAL VERTEBRATE ECOTOXICITY - Category B

Safety, health and environmental regulations specific for the product :

HSNO Approval Number : HSR002484

International regulations

IMO Anti-fouling System Convention Compliant (AFS/CONF/26)

This product does not contain organotin compounds acting as biocides and complies with the International Convention on the Control of Harmful Anti-fouling Systems on Ships as adopted by IMO October 2001 (IMO document AFS/CONF/26)

Product type : antifouling paint

Manufacturer : Hempel A/S

Product name and/or code : HEMPEL'S ANTIFOULING OLYMPIC 86901
8690119990

Colour : Black

Note: This name is shown on the product container. All products in HEMPEL's containers carrying this name comply with the IMO Convention (AFS/CONF/26).

Active ingredient(s) : copper (I) oxide 1317-39-1

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Classification	Justification
FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

Notice to reader

SECTION 16: Other information

The information contained in this safety data sheet is based on the present state of knowledge and EU and national legislation. It provides guidance on health, safety and environmental aspects for handling the product in a safe way and should not be construed as any guarantee of the technical performance or suitability for particular applications.

It is always the duty of the user/employer to ascertain that the work is planned and carried out in accordance with the national regulations.