Safety Data Sheet
Hempel's Antifouling Olympic 86951

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 86951

Product identity : 8695119990

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) Ltd.
PO Box 18262, Glen Innes, 1743 Auckland
Freephone (NZ only): 0508
HEMPEL 0800 463 735
Tel:+64 (0) 9274 0216
Tel:+64 (0) 27 449 3406
sales.nz@hempel.com

Emergency telephone number

Poisons Centre New Zealand: 0800 764 766
See section 4 First aid measures.

Date of Preparation : 6 May 2021

Date of previous issue 31 August 2018.

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 skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid release to the environment. Avoid breathing vapor. Wash thoroughly after handling.

Response : Collect spillage. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

SECTION 2: Hazards identification

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

2.3 Other hazards

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
xylene	1330-20-7	≥10 - ≤25	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2
zinc oxide	1314-13-2	≥10 - ≤25	AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
rosin	8050-09-7	≥10 - ≤25	SKIN SENSITIZATION - Category 1
ethylbenzene	100-41-4	≥3 - ≤5	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
C10 aromatics hydrocarbons, <1% naphthalene	64742-94-5	≥1 - ≤3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2
cupric oxide	1317-38-0	≥1 - ≤3	AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
4-methylpentan-2-one	108-10-1	≥1 - ≤3	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
copper (metallic)	7440-50-8	<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
2,5-di-tert-butylhydroquinone	88-58-4	<1	ACUTE TOXICITY (oral) - Category 3 SKIN SENSITIZATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
toluene	108-88-3	≤0.3	FLAMMABLE LIQUIDS - Category 2 SKIN CORROSION/IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1

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.
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. 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 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.

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

SECTION 5: Firefighting measures

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

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
copper (I) oxide	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** STEL: 2 mg/m³, (as Cu) 15 minutes. Form: Dusts and mists TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and mists
xylene	**NZ HSWA 2015 (New Zealand, 11/2019).** WES-TWA: 50 ppm 8 hours. WES-TWA: 217 mg/m³ 8 hours.
zinc oxide	**NZ HSWA 2015 (New Zealand, 11/2019).** WES-STEL: 10 mg/m³ 15 minutes. Form: Fume WES-TWA: 3 mg/m³ 8 hours. Form: Respirable fume WES-TWA: 10 mg/m³ 8 hours. Form: The value for respirable dust.
rosin	**ACGIH TLV (United States, 3/2020). Skin sensitizer. Inhalation sensitizer.**
wollastonite	**ACGIH TLV (United States, 3/2020).** TWA: 1 mg/m³ 8 hours. Form: Inhalable fraction
ethylbenzene	**NZ HSWA 2015 (New Zealand, 11/2019).** WES-STEL: 543 mg/m³ 15 minutes. WES-STEL: 125 ppm 15 minutes. WES-TWA: 434 mg/m³ 8 hours. WES-TWA: 100 ppm 8 hours.
carbonblack	**NZ HSWA 2015 (New Zealand, 11/2019).** WES-TWA: 3 mg/m³ 8 hours.
C10 aromatics hydrocarbons, <1% naphthalene	**ACGIH TLV (United States).** TWA Tentativ: 25 ppm 8 hours.
cupric oxide	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** STEL: 2 mg/m³, (as Cu) 15 minutes. Form: Dusts and mists TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and mists
4-methylpentan-2-one	**NZ HSWA 2015 (New Zealand, 11/2019).** WES-TWA: 50 ppm 8 hours. WES-TWA: 205 mg/m³ 8 hours. WES-STEL: 307 mg/m³ 15 minutes. WES-STEL: 75 ppm 15 minutes.
copper (metallic)	**NZ HSWA 2015 (New Zealand, 11/2019).** WES-TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists WES-TWA: 0.2 mg/m³, (as Cu) 8 hours. Form: Fume
toluene	**NZ HSWA 2015 (New Zealand, 11/2019). Absorbed through skin.** WES-TWA: 50 ppm 8 hours. WES-TWA: 188 mg/m³ 8 hours.

Recommended monitoring procedures

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

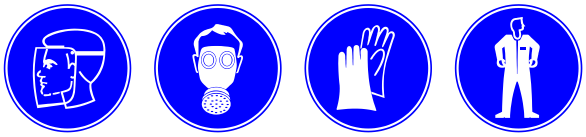
8.2 Exposure controls

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.

SECTION 8: Exposure controls/personal protection

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: 27°C (80.6°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 :	1.799 g/cm³
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: 24 %
Water % by weight :	Weighted average: 0 %
VOC content :	434.5 g/l

SECTION 9: Physical and chemical properties

VOC content, Ready-for-use mixture :	Not applicable
TOC Content :	Weighted average: 386 g/l
Solvent Gas :	Weighted average: 0.099 m³/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 and reducing materials.
Reactive or incompatible with the following materials: organic materials, acids, alkalis and moisture.

10.6 Hazardous decomposition products

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
86951199990	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	-
rosin	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	-
4-methylpentan-2-one	LD Dermal	Rabbit	>3 g/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	-
2,5-di-tert-butylhydroquinone	LD50 Dermal	Rat	>4000 mg/kg	-
	LD50 Oral	Rat	50 - 300 mg/kg	-

SECTION 11: Toxicological information

toluene	LC50 Inhalation Vapor LD50 Oral	Rat Rat	>20 mg/l 636 mg/kg	4 hours -

Acute toxicity estimates

Route	ATE value
Inhalation (gases) Inhalation (vapors) Inhalation (dusts and mists)	42353.23 ppm 331.01 mg/l 12.11 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
	Skin - Irritant	Rabbit	-	-
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
toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
2,5-di-tert-butylhydroquinone	skin	Mouse	Sensitizing

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
C10 aromatics hydrocarbons, <1% naphthalene	Category 3	-	Narcotic effects
4-methylpentan-2-one	Category 3	-	Respiratory tract irritation
2,5-di-tert-butylhydroquinone	Category 3	-	Respiratory tract irritation
toluene	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs
toluene	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1
C10 aromatics hydrocarbons, <1% naphthalene	ASPIRATION HAZARD - Category 1
toluene	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	EC50 65 mg/l	Algae	72 hours
	Acute EC50 0.51 mg/l	Daphnia - Daphnia Magna	48 hours
	Acute LC50 0.0081 mg/l	Fish - Pimephales promelas	96 hours
zinc oxide	EC50 0.413 mg/l	Daphnia	48 hours
	LC50 0.1169 mg/l	Fish	96 hours
	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
	Acute LC50 24600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
rosin	Acute EC50 >1000 mg/l	Algae	72 hours
	Acute EC50 911 mg/l	Daphnia	48 hours
	Acute LC50 >1000 mg/l	Fish	96 hours
ethylbenzene	Chronic NOEC <1000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
4-methylpentan-2-one	Chronic NOEC 7800 - 39000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
copper (metallic)	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
2,5-di-tert-butylhydroquinone	Acute EC50 0.038 mg/l	Algae	72 hours
	Acute EC50 0.4 mg/l	Daphnia	48 hours
toluene	Chronic NOEC <500000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
xylene	OECD 301F Ready Biodegradability - Manometric Respirometry Test	90 - 98 % - Readily - 28 days	-	-
	-	>60 % - Readily - 28 days	-	-
rosin	-	64 % - Not readily - 28 days	-	-
ethylbenzene	-	>70 % - Readily - 28 days	-	-
4-methylpentan-2-one	-	84 % - 14 days	100 mg/l	-
toluene	-	100 % - Readily - 14 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
zinc oxide	-	-	Not readily
rosin	-	-	Not readily
ethylbenzene	-	-	Readily
4-methylpentan-2-one	-	-	Readily
toluene	-	-	Readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
xylene	3.12	8.1 - 25.9	low
zinc oxide	2.2	60960	high
rosin	1.9 - 7.7	56.3	low
ethylbenzene	3.6	-	low
C10 aromatics hydrocarbons, <1% naphthalene	2.8 - 6.5	99 - 5780	high
4-methylpentan-2-one	1.31	2	low
2,5-di-tert-butylhydroquinone	4.85	440	low
toluene	2.73	90	low

12.4 Mobility in soil

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

Mobility : No known data avaliable in our database.

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.	**Hazchem code** 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. **Emergency schedules** F-E, S-E
IATA Class	UN1263	PAINT	3 	III	Yes.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

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 IMO instruments

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 - 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 : HSR002698

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 86951

8695119990

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

Notice to reader

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 preformance 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.