

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758 - United Kingdom (UK)

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

1.1 Product identifier

Product name : Hempel's Hard Racing 7668E
Product identity : 7668E30390, 001345D5
Product type : antifouling paint

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

Field of application : yacht, ships and shipyards.
Identified uses : Consumer applications, Professional applications, Used by spraying.
Spraying - For professional users only.

1.3 Details of the supplier of the safety data sheet

Company details : Hempel UK Ltd
Berwyn House, The Pavilions
Llantarnam Park
Cwmbran
South Wales NP44 3FD
Telephone: 01633 833600
hempel@hempel.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation)

UK: **01633 833600** (08.00 - 17.00)
Ireland: **01 809 2166** (National Poisons Information Centre,
Monday-Sunday; 08:00-22:00)

See Section 4 of the safety data sheet (first aid measures).

Date of issue : 27 August 2025
Date of previous issue : 17 January 2024.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Flam. Liq. 3, H226	FLAMMABLE LIQUIDS
Acute Tox. 4, H302	ACUTE TOXICITY (oral)
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION
Carc. 2, H351	CARCINOGENICITY
Aquatic Acute 1, H400	SHORT-TERM (ACUTE) AQUATIC HAZARD
Aquatic Chronic 1, H410	LONG-TERM (CHRONIC) AQUATIC HAZARD

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :




Signal word : Danger

Hazard statements :
H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H318 - Causes serious eye damage.
H351 - Suspected of causing cancer.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements :

General : Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention : Obtain special instructions before use. Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
Response : Collect spillage. IF exposed or concerned: 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 locked up.

SECTION 2: Hazards identification

Disposal :	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients :	<div></div> copper (I) oxide 4-methylpentan-2-one 2,5-di-tert-butylhydroquinone
Supplemental label elements :	Contains 2,5-di-tert-butylhydroquinone. May produce an allergic reaction.
Special packaging requirements	
Containers to be fitted with child-resistant fastenings :	Not applicable.
Tactile warning of danger :	Yes, applicable.


2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product/ingredient name	Identifiers	%	GB CLP Classification	Type
<div></div> copper (I) oxide	REACH #: 01-2119513794-36 EC: 215-270-7 CAS: 1317-39-1 Index: 029-002-00-X	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)	[1]
Solvent naphtha (petroleum), light arom.	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 64742-95-6	≥10 - ≤18	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
zinc oxide	REACH #: 01-2119463881-32 EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≥10 - ≤25	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	<10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	[1] [2]
4-methylpentan-2-one	REACH #: 01-2119473980-30 EC: 203-550-1 CAS: 108-10-1 Index: 606-004-00-4	≤1.9	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304	[1] [2]
copper oxide	EC: 215-269-1 CAS: 1317-38-0 Index: 029-016-00-6	≤1	Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=1)	[1]
oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1)	REACH #: 01-2119974119-29 EC: 251-846-4 CAS: 34140-91-5	<1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 2, H373 (oral) Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411	[1]
2,5-di-tert-butylhydroquinone	REACH #: 01-2120766295-46 EC: 201-841-8 CAS: 88-58-4	≤0.3	Acute Tox. 3, H301 Skin Sens. 1B, H317 STOT SE 3, H335 STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)	[1]
(Z)-N-9-octadecenylpropane-1,3-diamine	EC: 230-528-9 CAS: 7173-62-8	<0.1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	[1]

SECTION 3: Composition/information on ingredients


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.

Type

[1] Substance classified with a health or environmental hazard


[2] Substance with a workplace exposure limit, see section 8.

Active substances

Product/ingredient name (% by weight)
 Copper (I) oxide (30.4 % by weight)

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. Seek immediate medical attention/advice.
Inhalation :	Remove to fresh air and keep at rest in a position comfortable for breathing. Give nothing by mouth. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately.
Skin contact :	 Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners. Remove contaminated clothing and shoes.
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 :	No known significant effects or critical hazards.
Ingestion :	Harmful if swallowed.

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 :	If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed. 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, CO₂, 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 vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials: carbon oxides nitrogen 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 vapour 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 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.

6.3 Methods and material for containment and cleaning up

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

SECTION 7: Handling and storage

7.3 Specific end use(s)


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

Specific end use(s) : Antifouling products.


SECTION 8: Exposure controls/personal protection

8.1 Control parameters


Occupational exposure limits

Product/ingredient name	Exposure limit values
 xylene	EH40/2005 WELs (United Kingdom (UK), 1/2020) [xylene, o-,m-,p- or mixed isomers] Absorbed through skin. STEL 15 minutes: 441 mg/m ³ . TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m ³ . STEL 15 minutes: 100 ppm.
4-methylpentan-2-one	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 416 mg/m ³ . STEL 15 minutes: 100 ppm. TWA 8 hours: 208 mg/m ³ . TWA 8 hours: 50 ppm.
ethylbenzene	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 552 mg/m ³ . STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm. TWA 8 hours: 441 mg/m ³ .

Biological exposure indices

Product/ingredient name	Exposure limit values
 xylene	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Xylene, o-, m-, p- or mixed isomers] BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.
4-methylpentan-2-one	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) BGV: 20 µmol/l, 4-methylpentan-2-one [in urine]. Sampling time: post shift.

Recommended monitoring procedures

 Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

Not applicable.

Predicted effect concentrations

Not applicable.

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.



SECTION 8: Exposure controls/personal protection








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 :	<p>Wear chemically 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.</p> <p>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:</p> <p>Recommended: Silver Shield / Barrier / 4H gloves, polyvinyl alcohol (PVA), Viton® May be used: nitrile rubber (>0.3 mm) Short term exposure: neoprene rubber (>0.1 mm), butyl rubber (>0.5 mm), natural rubber (latex) (>0.4 mm), polyvinyl chloride (PVC), nitrile rubber (>0.1 mm), butyl rubber (>0.3 mm)</p>
Body protection :	<p>Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product.</p> <p>Wear suitable protective clothing. Always wear protective clothing when spraying.</p> <p>Chemical-resistant apron.</p>
Respiratory protection :	<p>When the product is applied by spraying and for continuous or prolonged work always wear an air-fed respirator e.g. hood with supply of fresh or compressed air or a full face, powered air purifying filter. 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. (EN140) Be sure to use an approved/certified respirator or equivalent.</p>

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.																					
Colour :	Blue.																					
Odour :	Solvent-like																					
pH :	Testing not relevant or not possible due to nature of the product.																					
Melting point/freezing point :	Testing not relevant or not possible due to nature of the product.																					
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.																					
Flash point :	Closed cup: 31°C (87.8°F) [Setaflash]																					
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: oxidising materials. Slightly flammable in the presence of the following materials or conditions: reducing materials.																					
Vapour pressure :	<table><tr><th></th><th colspan="3">Vapour Pressure at 20°C</th><th colspan="3">Vapour pressure at 50°C</th></tr><tr><th>Ingredient name</th><th>mm Hg</th><th>kPa</th><th>Method</th><th>mm Hg</th><th>kPa</th><th>Method</th></tr><tr><td> xylene</td><td>6.7</td><td>0.89</td><td></td><td></td><td></td><td></td></tr></table>		Vapour Pressure at 20°C			Vapour pressure at 50°C			Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method	 xylene	6.7	0.89				
	Vapour Pressure at 20°C			Vapour pressure at 50°C																		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method																
 xylene	6.7	0.89																				
Vapour density :	 Not available.																					
Specific gravity :	1.64 g/cm³																					
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.																					
Auto-ignition temperature :	<table><tr><th>Ingredient name</th><th>°C</th><th>°F</th><th>Method</th></tr><tr><td> Solvent naphtha (petroleum), light arom.</td><td>280 - 470</td><td>536 - 878</td><td></td></tr></table>	Ingredient name	°C	°F	Method	 Solvent naphtha (petroleum), light arom.	280 - 470	536 - 878														
Ingredient name	°C	°F	Method																			
 Solvent naphtha (petroleum), light arom.	280 - 470	536 - 878																				

SECTION 9: Physical and chemical properties

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.
Oxidising 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 :	35.2 g/l
TOC Content :	Weighted average: 385 g/l
Solvent Gas :	Weighted average: 0.094 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 pressurise, 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: oxidising materials and reducing materials.

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 nitrogen oxides metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.

Direct contact with the eyes can cause irreversible damage, including blindness.

Acute toxicity

Product/ingredient name	Result	Dose / Exposure	Effects
Copper (I) oxide	Rat - Dermal - LD50 Rat - Oral - LD50 Rat - Inhalation - LC50 Dusts and mists	>2000 mg/kg 1340 mg/kg 3.34 mg/l [4 hours]	
Solvent naphtha (petroleum), light arom.	Rat - Oral - LD50	3492 mg/kg	
zinc oxide	Rabbit - Dermal - LD50 Rat - Inhalation - LC50 Vapour Rat - Oral - LD50 Rat - Dermal - LD50 Rat - Inhalation - LC50 Dusts and mists	3160 mg/kg 6193 mg/m³ [4 hours] >5000 mg/kg >2000 mg/kg >5.7 mg/l [4 hours]	

SECTION 11: Toxicological information

xylene	Rabbit - Dermal - LD50 Rat - Oral - LD50 Rat - Inhalation - LC50 Vapour Rat - Inhalation - LC50 Gas.	>4200 mg/kg 3523 mg/kg 6350 ppm [4 hours] 5000 ppm [4 hours]	Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes
4-methylpentan-2-one	Rabbit - Dermal - LD Rat - Inhalation - LC50 Vapour	>3 g/kg 11 mg/l [4 hours]	
ethylbenzene	Rat - Oral - LD50	3500 mg/kg	
2,5-di-tert-butylhydroquinone	Rabbit - Dermal - LD50 Rat - Dermal - LD50 Rat - Oral - LD50	>5000 mg/kg >4000 mg/kg 50 - 300 mg/kg	

Acute toxicity estimates

Product/ingredient name	Oral mg/kg	Dermal mg/kg	Inhalation (gases) ppm	Inhalation (vapours) mg/l	Inhalation (dusts and mists) mg/l
Hempel's Hard Racing 7668E	500	21755.2	80417.9	375.2	11.1
copper (I) oxide	500				3.34
Solvent naphtha (petroleum), light arom.	3492	3160			
xylene	3523	1100	5000		
4-methylpentan-2-one				11	
ethylbenzene	3500		4500	11	
2,5-di-tert-butylhydroquinone	100				
(Z)-N-9-octadecenylpropane-1,3-diamine	500				

Irritation/Corrosion

Product/ingredient name	Result	Species	Exposure
copper (I) oxide	Rabbit - Eyes - Irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 100 microliters
Solvent naphtha (petroleum), light arom.	Rabbit - Eyes - Mild irritant		
zinc oxide	Rabbit - Respiratory - Mild irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 500 milligrams
	Rabbit - Skin - Moderate irritant		
	Rabbit - Eyes - Mild irritant		
xylene	Rabbit - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 500 milligrams
	Rabbit - Eyes - Severe irritant		
	Rabbit - Skin - Moderate irritant		
4-methylpentan-2-one	Rabbit - Skin - Irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 5 milligrams
	Rabbit - Eyes - Moderate irritant		
	Rabbit - Skin - Mild irritant		
ethylbenzene	Rabbit - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 500 milligrams
	Rabbit - Respiratory - Mild irritant		
	Rabbit - Eyes - Mild irritant		

Sensitiser

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

Mutagenic effects

No known data available in our database.

Carcinogenicity

No known data available in our database.

Reproductive toxicity

No known data available in our database.

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), light arom. 4-methylpentan-2-one 2,5-di-tert-butylhydroquinone	Category 3 Category 3 Category 3 Category 3		Respiratory tract irritation Narcotic effects Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1) 2,5-di-tert-butylhydroquinone (Z)-N-9-octadecenylpropane-1,3-diamine	Category 2 Category 2 Category 2 Category 1	- oral - -	hearing organs - - -

Aspiration hazard

Product/ingredient name	Result
Solvent naphtha (petroleum), light arom. ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential chronic health effects

No known significant effects or critical hazards.

11.2 Information on other hazards

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	Algae	65 mg/l [96 hours]
	Acute - LC50	Fish - <i>Pimephales promelas</i>	0.0081 mg/l [96 hours]
	Acute - EC50	Daphnia - Daphnia - <i>Daphnia Magna</i>	0.51 mg/l [48 hours]
	Acute - LC50	Fish - <i>Oncorhynchus mykiss</i> (rainbow trout)	9.22 mg/l [96 hours]
Solvent naphtha (petroleum), light arom.	Acute - EC50	Algae - <i>Pseudokirchneriella subcapitata</i> (green algae)	2.6 mg/l [96 hours]
	Acute - EC50	Daphnia	3.2 mg/l [48 hours]
	Acute - LC50 - Fresh water	Daphnia - Water flea - <i>Daphnia magna</i> - Neonate	24600 µg/l [48 hours]
	Acute - EC50	Algae - Green algae - <i>Pseudokirchneriella subcapitata</i> - Exponential growth phase	0.17 mg/l [72 hours]
	Acute - EC50	Daphnia - Green algae - <i>Pseudokirchneriella subcapitata</i> - Exponential growth phase	1 mg/l [48 hours]
	EC50	Daphnia	0.413 mg/l [48 hours]
	LC50	Fish	0.1169 mg/l [96 hours]
	Chronic - EC50	Algae	0.136 mg/l [72 hours]
4-methylpentan-2-one	Chronic - NOEC - Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	7800 - 39000 µg/l [21 days]
	Chronic - NOEC - Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i> - Embryo	168 mg/l [33 days]
ethylbenzene	Chronic - NOEC - Fresh water	Algae - Green algae - <i>Pseudokirchneriella subcapitata</i>	<1000 µg/l [96 hours]
oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1)	Acute - LC50	Fish	0.13 mg/l [96 hours]
2,5-di-tert-butylhydroquinone	Acute - EC50	Algae	0.041 mg/l [72 hours]
	Acute - EC50	Daphnia	0.4 mg/l [48 hours]
	Acute - EC50	Algae	0.038 mg/l [72 hours]
(Z)-N-9-octadecenylpropane-1,3-diamine	Acute - EC50	Algae	0.05 mg/l [72 hours]

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result
Solvent naphtha (petroleum), light arom.		>70% [28 days] - Readily
xylene	OECD Ready Biodegradability - Manometric Respirometry Test	>60% [28 days] - Readily 78% [28 days] - Readily
4-methylpentan-2-one	OECD Ready Biodegradability - Manometric Respirometry Test	>60% [28 days] - Readily 90 - 98% [28 days] - Readily
ethylbenzene		84% [14 days]
oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1)	OECD Ready Biodegradability - Closed Bottle Test	>70% [28 days] - Readily 66% [28 days] - Readily
(Z)-N-9-octadecenylpropane-1,3-diamine	OECD Ready Biodegradability - Closed Bottle Test	66% [28 days] - Readily

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Solvent naphtha (petroleum), light arom.			Readily
zinc oxide			Not readily
xylene			Readily
4-methylpentan-2-one			Readily
ethylbenzene			Readily
oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1)			Readily
(Z)-N-9-octadecenylpropane-1,3-diamine			Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Solvent naphtha (petroleum), light arom.	-	10 - 2500	High
zinc oxide	2.2	60960	High
xylene	3.12	8.1 - 25.9	Low
4-methylpentan-2-one	1.9	2	Low
ethylbenzene	3.6	-	Low
2,5-di-tert-butylhydroquinone	4.85	440	Low
(Z)-N-9-octadecenylpropane-1,3-diamine	0.03	0.5	Low


12.4 Mobility in soil

Soil/water partition coefficient


Product/ingredient name	logK _{oc}	K _{oc}
xylene	1.59	39
4-methylpentan-2-one	1.61	40.9047
ethylbenzene	2.23	170.406
2,5-di-tert-butylhydroquinone	3.75	5563.03
(Z)-N-9-octadecenylpropane-1,3-diamine	4.14	13941.9

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Copper (I) oxide	No	No	No	No	No	No	No
Solvent naphtha (petroleum), light arom.	No	No	No	No	No	No	No
zinc oxide	No	No	No	No	No	No	No
xylene	No	No	Yes	No	No	No	Yes
4-methylpentan-2-one	No	No	Yes	No	No	No	Yes
ethylbenzene	No	No	Yes	Yes	No	No	No
copper oxide	No	No	No	No	No	No	No
oleic acid, compound with (Z)-N-octadec-9-enylpropane-1,3-diamine (2:1)	No	No	No	Yes	No	No	No
2,5-di-tert-butylhydroquinone	No	No	No	Yes	No	No	No
(Z)-N-9-octadecenylpropane-1,3-diamine	No	No	No	Yes	No	No	No

Mobility :  The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Conclusion/Summary :  The product does not meet the criteria to be considered as a PBT or vPvB.

SECTION 12: Ecological information

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 minimised 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.

European waste catalogue no. (EWC) is given below.






European waste catalogue (EWC) : 08 01 11*

Packaging

The generation of waste should be avoided or minimised 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 or ADR for transport by road, RID for transport by train, IMDG for transport by sea, IATA for transport by air.

	14.1 UN / ID no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env*	Additional information
ADR/RID Class	UN1263	PAINT	3  	III	Yes.	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Tunnel code (D/E)
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 Maritime 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

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorisation - Substances of very high concern

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Other EU regulations

SECTION 15: Regulatory information

Seveso category This product is controlled under the Seveso III Directive.

Seveso category

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1

Biocidal Products Regulations

Restrictions on use : See Section 1: Relevant identified uses of the substance or mixture and uses advised against

Directions for use and dose rate : Spray or Roller application or brushing
Consumer use: Rolling, Brushing
Dose: See separate Product Data Sheet, Application instructions or label.

Additional information : (Product Type: 21 - Antifouling products) Liquid. Wear suitable protective clothing, gloves and eye/face protection. In case of contact with eyes, rinse immediately with plenty of water. If swallowed, seek medical advice immediately and show the container or label. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

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 Hard Racing 7668E
7668E30390

Colour : Blue.

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

15.2 Chemical safety assessment

Not applicable.

SECTION 16: Other information

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
EUH statement = CLP-specific Hazard statement
RRN = REACH Registration Number
DNEL = Derived No Effect Level
PNEC = Predicted No Effect Concentration

Full text of abbreviated H statements :

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

SECTION 16: Other information

Full text of classifications [CLP/GHS] :	Acute Tox. 3	ACUTE TOXICITY - Category 3
	Acute Tox. 4	ACUTE TOXICITY - Category 4
	Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
	Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
	Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
	Asp. Tox. 1	ASPIRATION HAZARD - Category 1
	Carc. 2	CARCINOGENICITY - Category 2
	Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
	Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
	Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
	Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
	Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
	Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
	Skin Sens. 1B	SKIN SENSITISATION - Category 1B
	STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
	STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
	STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Classification	Justification
FLAMMABLE LIQUIDS ACUTE TOXICITY (oral) SERIOUS EYE DAMAGE/EYE IRRITATION CARCINOGENICITY SHORT-TERM (ACUTE) AQUATIC HAZARD LONG-TERM (CHRONIC) AQUATIC HAZARD	On basis of test data Expert judgment Calculation method Calculation method Calculation method Calculation method

Notice to reader

 Indicates information that has changed from previously issued version.

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.