

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878 - Austria / Germany

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

1.1 Product identifier

Product name : Hempel's Silic Pro
Product identity :  746019740, 00138766
Product type : silicone fouling-release coating

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

Field of application : yacht, ships and shipyards.
Identified uses : Industrial applications, Professional applications.

1.3 Details of the supplier of the safety data sheet

Company details : Hempel (Germany) GmbH
Haderslebener Straße 9
25421 Pinneberg
Tel. (0 41 01) 70 70
Fax. (0 41 01) 70 71 31
hempel@hempel.com

Date of issue : 20 November 2023

Date of previous issue : 2 May 2023.

1.4 Emergency telephone number

(0 41 01) 70 70 (08.00 - 17.00)
Austria: Vergiftungsinformationszentrale
+43 1 406 43 43 (24 hrs)
Switzerland: Swiss Toxicological Information Centre
+41 44 251 51 51 (in Switzerland dial 145) (24 hrs)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226	FLAMMABLE LIQUIDS
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation)
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION
Aquatic Acute 1, H400	AQUATIC HAZARD (ACUTE)
Aquatic Chronic 1, H410	AQUATIC HAZARD (LONG-TERM)

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

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements :
H226 - Flammable liquid and vapor.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid release to the environment.

Response : Collect spillage.

Hazardous ingredients : copper pyrrhione

Supplemental label elements :  contains 1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene. May produce an allergic reaction.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

SECTION 2: Hazards identification

This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥10 - ≤20	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (gases)] = 5000 ppm [1] [2]
2-Pentanone, O,O',O''-(ethenylsilyldyne)trioxime ethylbenzene	REACH #: 01-2120006148-66 CAS: 58190-62-8 REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≥5 - ≤10 ≥1 - ≤3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304	ATE [Oral] = 500 mg/kg ATE [Inhalation (gases)] = 4500 ppm [1] [2]
copper pyrrhione	EC: 238-984-0 CAS: 14915-37-8	≥1 - <3	Acute Tox. 4, H302 Acute Tox. 2, H330 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1075 mg/kg ATE [Inhalation (dusts and mists)] = 0.07 mg/l M [Acute] = 100 M [Chronic] = 100 [1]
1,3-bis(12-hydroxyoctadecanamide-N-methyle) benzene	REACH #: 01-0000016979-49 EC: 423-300-7	≤0.3	Skin Sens. 1B, H317 Aquatic Chronic 4, H413	- [1]
toluene	REACH #: 01-2119471310-51 EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3	≤0.3	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304	- [1] [2]
octamethylcyclotetrasiloxane (D4)	REACH #: 01-2119529238-36 EC: 209-136-7 CAS: 556-67-2 Index: 014-018-00-1	≤0.1	Flam. Liq. 3, H226 Repr. 2, H361f Aquatic Chronic 1, H410	M [Chronic] = 10 [1] [3] [4]
See Section 16 for the full text of the H statements declared above.				

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.
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Active substances

Product/ingredient name (% by weight)
copper pyrrhione (2.7 % 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 :	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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact :	Causes serious eye irritation.
Inhalation :	Harmful if inhaled.
Skin contact :	Causes skin irritation.
Ingestion :	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact :	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation :	No specific data.
Skin contact :	Adverse symptoms may include the following: irritation redness
Ingestion :	No specific data.

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, 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 nitrogen oxides sulfur oxides halogenated compounds 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.

Specific end use(s) : Antifouling products.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Product/ingredient name	Exposure limit values
Xylene	Regulation on Limit Values - MAC (Austria, 4/2021). [Xylenes (all isomers)] PEAK: 442 mg/m ³ , 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 221 mg/m ³ 8 hours.
Iron oxide (Fe ₃ O ₄)	Regulation on Limit Values - MAC (Austria, 4/2021). [Iron oxide] PEAK: 20 mg/m ³ , 2 times per shift, 60 minutes. Form: inhalable dust TWA: 10 mg/m ³ 8 hours. Form: inhalable dust TWA: 5 mg/m ³ 8 hours. Form: respirable dust PEAK: 10 mg/m ³ , 2 times per shift, 60 minutes. Form: respirable dust
ethylbenzene	Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin. CEIL: 880 mg/m ³ , 8 times per shift, 5 minutes. CEIL: 200 ppm, 8 times per shift, 5 minutes. TWA: 440 mg/m ³ , 8 times per shift, 8 hours. TWA: 100 ppm, 8 times per shift, 8 hours.

SECTION 8: Exposure controls/personal protection

copper pyrrhione	Regulation on Limit Values - MAC (Austria, 4/2021). [Copper and its compounds] TWA: 1 mg/m ³ , (measured as Cu) 8 hours. Form: inhalable fraction PEAK: 4 mg/m ³ , (measured as Cu), 4 times per shift, 15 minutes. Form: inhalable fraction Regulation on Limit Values - MAC (Austria, 4/2021). [Copper and its compounds (Fume)] TWA: 0.1 mg/m ³ , (measured as Cu) 8 hours. Form: respirable fume PEAK: 0.4 mg/m ³ , (measured as Cu), 4 times per shift, 15 minutes. Form: respirable fume
toluene	Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 190 mg/m ³ 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. PEAK: 380 mg/m ³ , 4 times per shift, 15 minutes.
xylene	TRGS 900 OEL (Germany, 4/2023). [xylene] Absorbed through skin. TWA: 220 mg/m ³ 8 hours. PEAK: 440 mg/m ³ 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). [Xylene (all isomers)] Absorbed through skin. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 220 mg/m ³ 8 hours. PEAK: 440 mg/m ³ , 4 times per shift, 15 minutes.
ethylbenzene	TRGS 900 OEL (Germany, 4/2023). Absorbed through skin. PEAK: 176 mg/m ³ 15 minutes. PEAK: 40 ppm 15 minutes. TWA: 88 mg/m ³ 8 hours. TWA: 20 ppm 8 hours. DFG MAC-values list (Germany, 7/2022). Absorbed through skin. PEAK: 40 ppm, 4 times per shift, 15 minutes. PEAK: 176 mg/m ³ , 4 times per shift, 15 minutes. TWA: 88 mg/m ³ 8 hours. TWA: 20 ppm 8 hours.
copper pyrrhione	DFG MAC-values list (Germany, 7/2022). [Copper and its inorganic compounds] PEAK: 0.02 mg/m ³ , 4 times per shift, 15 minutes. Form: respirable fraction TWA: 0.01 mg/m ³ 8 hours. Form: respirable fraction
toluene	TRGS 900 OEL (Germany, 4/2023). Absorbed through skin. TWA: 190 mg/m ³ 8 hours. PEAK: 380 mg/m ³ 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). Absorbed through skin. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 190 mg/m ³ 8 hours. PEAK: 380 mg/m ³ , 4 times per shift, 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 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

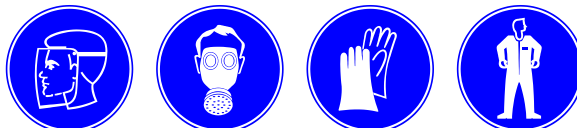
SECTION 8: Exposure controls/personal protection

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. Where personal protection equipment is required this shall be chosen in accordance with German BGR regulations of the "Berufsgenossenschaften".



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.

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.

Respiratory protection :

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 : Green.

Odor : 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: 37°C (98.6°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.

Lower and upper explosive (flammable) limits : 0.8 - 6.7 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.

Specific gravity : 1.01 g/cm³

SECTION 9: Physical and chemical properties

Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Lowest known value: 430°C (806°F) (polydimethylsiloxane silicone).
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 :	Testing not relevant or not possible due to nature of the product.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

9.2 Other information

Solvent(s) % by weight :	Weighted average: 18 %
Water % by weight :	Weighted average: 0 %
VOC content :	181.6 g/l
TOC Content :	Weighted average: 162 g/l
Solvent Gas :	Weighted average: 0.041 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.
Reactive or incompatible with the following materials: 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 sulfur oxides halogenated compounds 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.

Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LC50 Inhalation Gas. LC50 Inhalation Vapor LD50 Dermal LD50 Oral LD50 Oral	Rat Rat Rabbit Rat Rat	5000 ppm 6350 ppm >4200 mg/kg 3523 mg/kg 1000 - 2000 mg/kg	4 hours 4 hours - - -
2-Pentanone, O,O',O''-(ethenylsilyldiyl)trioxime ethylbenzene	LD50 Dermal LD50 Oral	Rabbit Rat	>5000 mg/kg 3500 mg/kg	- -
copper pyrrhione	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat Rabbit Rat	0.07 mg/l >2000 mg/kg 1075 mg/kg	4 hours - -
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	LC50 Inhalation Dusts and mists	Rat	>5 mg/m ³	4 hours
toluene	LD50 Dermal LD50 Oral LC50 Inhalation Vapor LD50 Oral	Rat Rat Rat Rat	>2000 mg/kg >2000 mg/kg >20 mg/l 636 mg/kg	- - 4 hours -
octamethylcyclotetrasiloxane (D4)	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat Rat Rat	36 mg/l >2400 mg/kg >4800 mg/kg	4 hours - -

Acute toxicity estimates

Product/ingredient name	Oral mg/kg	Dermal mg/kg	Inhalation (gases) ppm	Inhalation (vapors) mg/l	Inhalation (dusts and mists) mg/l
Hempel's Silic Pro	5125.3	7838.4	28985.3	380	2.7
xylene	3523	1100	5000		
2-Pentanone, O,O',O''-(ethenylsilyldiyl)trioxime	500				
ethylbenzene	3500		4500	11	
copper pyrrhione	1075				0.07
octamethylcyclotetrasiloxane (D4)					36

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
xylene	Eyes - Severe irritant Skin - Irritant	Rabbit Rabbit	- -	24 hours 5 milligrams -
ethylbenzene	Skin - Moderate irritant Eyes - Mild irritant Respiratory - Mild irritant	Rabbit Rabbit Rabbit	- - -	24 hours 500 milligrams - -
copper pyrrhione	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
toluene	Eyes - Severe irritant Eyes - Mild irritant	Rabbit Rabbit	- -	- 0.5 minutes 100 milligrams
octamethylcyclotetrasiloxane (D4)	Skin - Moderate irritant Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit Rabbit	- - -	24 hours 20 milligrams 24 hours 500 milligrams 24 hours 500 milligrams

Mutagenic effects

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Teratogenic effects

No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
toluene	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

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

Aspiration hazard

Product/ingredient name	Result
ethylbenzene toluene	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

No known significant effects or critical hazards.

Sensitization : Contains 1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene. May produce an allergic reaction.

11.2 Information on other hazards

Endocrine disrupting properties : See Section 15 for details.

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
ethylbenzene copper pyrrhione	Chronic NOEC <1000 µg/l Fresh water Acute EC50 0.022 mg/l Acute LC50 0.0043 mg/l	Algae - Pseudokirchneriella subcapitata Daphnia Fish	96 hours 48 hours 96 hours
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	Acute LC50 >100 mg/l	Algae	72 hours
toluene	Acute LC50 >100 mg/l Chronic NOEC <500000 µg/l Fresh water	Fish Algae - Pseudokirchneriella subcapitata	96 hours 96 hours
octamethylcyclotetrasiloxane (D4)	Chronic NOEC 1000 µg/l Fresh water Acute EC50 >0.022 mg/l Acute EC50 0.015 mg/l Acute LC50 >0.022 mg/l Chronic NOEC 1.7 - 15 µg/l Fresh water Chronic NOEC 4.4 µg/l Fresh water	Daphnia - Daphnia magna Algae Daphnia Fish Daphnia - Daphnia magna Fish - Oncorhynchus mykiss - Egg	21 days 96 hours 48 hours 96 hours 21 days 93 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ylene	OECD 301F Ready Biodegradability - Manometric Respirometry Test	90 - 98 % - Readily - 28 days	-	-
ethylbenzene	-	>60 % - Readily - 28 days	-	-
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	-	>70 % - Readily - 28 days	-	-
toluene	-	5 % - 28 days	-	-
octamethylcyclotetrasiloxane (D4)	OECD 310 Ready Biodegradability - CO ₂ in Sealed Vessels (Headspace Test)	100 % - Readily - 14 days 3.7 % - Not readily - 28 days	- -	- -
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
ylene	-	-	Readily	
ethylbenzene	-	-	Readily	
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	-	-	Not readily	
toluene	-	-	Readily	
octamethylcyclotetrasiloxane (D4)	-	-	Not readily	

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3.12	8.1 - 25.9	low
ethylbenzene	3.6	-	low
copper pyrrithione	-	50	low
toluene	2.73	90	low
octamethylcyclotetrasiloxane (D4)	6.488	13400	high

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
xylene	No	N/A	No	No	No	N/A	No
2-Pentanone, O,O',O"- (ethenylsilylidyne)trioxime	No	N/A	N/A	No	N/A	N/A	N/A
copper pyrrithione	No	N/A	No	No	No	N/A	No
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	No	N/A	N/A	No	N/A	N/A	N/A
toluene	No	N/A	No	Yes	No	N/A	No
octamethylcyclotetrasiloxane (D4)	SVHC (Recommended)	Specified	Specified	Specified	SVHC (Recommended)	Specified	Specified

12.6 Endocrine disrupting properties

See Section 15 for details.

12.7 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.

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

European waste catalogue (EWC) : 08 01 11*

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.

Empty containers or liners may retain some product residues.

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	UN2929	TOXIC LIQUID FLAMMABLE, ORGANIC, N.O.S. (copper pyrrithione, xylene)	6.1 3   	II	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	UN2929	TOXIC LIQUID FLAMMABLE, ORGANIC, N.O.S. (copper pyrrithione, xylene). (copper pyrrithione)	6.1 3   	II	Yes. The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, S-D

SECTION 14: Transport information

IATA Class	UN2929	TOXIC LIQUID FLAMMABLE, ORGANIC, N.O.S. (copper pyrrhithione, xylene)	6.1 3	 	II	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 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 authorization - Substances of very high concern

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
octamethylcyclotetrasiloxane (D4)	PBT	Recommended	ED/71/2019	4/14/2021
octamethylcyclotetrasiloxane (D4)	vPvB	Recommended	ED/71/2019	4/14/2021

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

Not applicable.

Other EU regulations

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. : Product is not intended for consumer use.

Directions for use and dose rate : Roller application or 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 this 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.

National regulations

Austria

VbF class : A II
Very dangerous flammable liquid.

Limitation of the use of organic solvents : Permitted.

Germany

Storage code : 3

Hazardous incident ordinance : This product is controlled under the Germany Hazardous Incident Ordinance.

Danger criteria :	Category	Reference number
	P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	1.2.5.3
	E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1	1.3.1

Hazard class for water : 2

SECTION 15: Regulatory information

Technical instruction on air quality control :  A-Luft Number 5.2.5: 64%
 TA-Luft Class II - Number 5.2.2: 14.4%
 TA-Luft Class I - Number 5.2.5: 8.9%
 TA-Luft Class II - Number 5.2.5: 3%
 TA-Luft Class III - Number 5.2.2: 2.7%

References :

Other Rules:

- BGR 190 (Rules for the use of respiratory protective equipment)
- BGR 192 (Rules for the use of eye and face protection)
- BGR 195 (Rules for the use of gloves)

Switzerland

VOC content : 17.5 % (w/w)

National regulations Non-GHS

List name	Product/ingredient name	Name on list	Classification	Notes
DFG MAC-values list	ethylbenzene	Ethylbenzene	K3, M3	-
 Switzerland Occupational Exposure Limits	toluene	Toluol	Dev. R2D	-

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 : silicone fouling-release coating

Manufacturer : Hempel A/S

Product name and/or code : Hempel's Silic Pro
 7746019740

Colour : Green.

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 pyrrithione 14915-37-8

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 vapor.
H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
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.
H413	May cause long lasting harmful effects to aquatic life.

SECTION 16: Other information

Full text of classifications [CLP/GHS] :	Acute Tox. 2	ACUTE TOXICITY - Category 2
	Acute Tox. 4	ACUTE TOXICITY - Category 4
	Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
	Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
	Aquatic Chronic 4	AQUATIC HAZARD (LONG-TERM) - Category 4
	Asp. Tox. 1	ASPIRATION HAZARD - Category 1
	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
	Repr. 2	TOXIC TO REPRODUCTION - Category 2
	Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
	Skin Sens. 1B	SKIN SENSITIZATION - Category 1B
	STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
	STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
FLAMMABLE LIQUIDS	On basis of test data
ACUTE TOXICITY (inhalation)	Calculation method
SKIN CORROSION/IRRITATION	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION	Calculation method
AQUATIC HAZARD (ACUTE)	Calculation method
AQUATIC HAZARD (LONG-TERM)	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.