Yachtcare Silicone Marine transparent

Version		Revision Date:	Date of last issue: 18.10.2023
2.2	DE / EN	23.05.2024	Date of first issue: 15.08.2022

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

1.1 Product identifier

Trade name : Yachtcare Silicone Marine transparent

Product code : 149.285

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

Use of the Sub-stance/Mixture : Sealant

Recommended restrictions on use : Industrial use, professional use, public use

1.3 Details of the supplier of the safety data sheet

Company : Vosschemie GmbH
Esinger Steinweg 50
25436 Uetersen
Germany

info@vosschemie.de

Telephone : 04122 717 0
Telefax : 04122 717158

Responsible Department : Laboratory

04122 717 0
sds@vosschemie.de

1.4 Emergency telephone

Telephone : Giftinformationszentrum (GIZ)-Nord, Göttingen, Deutschland
0551 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Warning

Hazard Statements :

H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements :

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Prevention:

P273	Avoid release to the environment.
P280	Wear protective gloves.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Disposal:

P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:

Trimethoxyvinylsilane

2.3 Other hazards

This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Trimethoxyvinylsilane	2768-02-7 220-449-8 01-2119513215-52	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Sens. 1B; H317 --- Acute toxicity estimate Acute inhalation toxicity (vapor): 16,8 mg/l	>= 1 - < 5
dioctyltin oxide	870-08-6 212-791-1 01-2119971268-27	Repr. 2; H361 STOT SE 2; H371 Aquatic Chronic 4; H413	>= 0,1 - < 0,2
octamethylcyclotetrasiloxane	556-67-2 209-136-7 014-018-00-1 01-2119529238-36	Flam. Liq. 3; H226 Repr. 2; H361f Aquatic Chronic 1; H410 --- M-Factor (Chronic aquatic toxicity): 10	>= 0,1 - < 0,2
methanol	67-56-1 200-659-6 603-001-00-X 01-2119433307-44	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370 --- specific concentration limit STOT SE 1; H370 >= 10 %	>= 0,1 - < 0,2

		STOT SE 2; H371 3 - < 10 % Acute toxicity estimate Acute oral toxicity: 100 mg/kg Acute inhalation toxicity (vapor): 3 mg/l Acute dermal toxicity: 300 mg/kg	
carbendazim (ISO)	10605-21-7 234-232-0 613-048-00-8 01-2120802826-54	Skin Sens. 1; H317 Muta. 1B; H340 Repr. 1B; H360FD Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 0,01 - < 0,1
PBT and vPvB substance :			
decamethylcyclopentasiloxane	541-02-6 208-764-9 01-2119511367-43		>= 0,1 - < 1
dodecamethylcyclohexasiloxane	540-97-6 208-762-8 01-2119517435-42		>= 0,1 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : If you feel unwell, seek medical advice (show the label where possible).
Move out of dangerous area.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before re-use.
Do not leave the victim unattended.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

If inhaled : Remove to fresh air.
If symptoms persist, call a physician.

In case of skin contact	:	Wash off immediately with soap and plenty of water. Call a physician if irritation develops or persists.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If easy to do, remove contact lens, if worn. Consult a physician.
If swallowed	:	Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Carbon dioxide (CO2) Dry powder Water spray jet Alcohol-resistant foam
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting	:	Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
Hazardous combustion products	:	Hazardous decomposition products due to incomplete combustion Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

5.3 Advice for firefighters

Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

In the event of fire and/or explosion do not breathe fumes. Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation, especially in confined areas.
First aider needs to protect himself.
Wear personal protective equipment.
Evacuate personnel to safe areas.
Avoid contact with skin, eyes and clothing.
Forms slippery/greasy layers with water.
Contaminated surfaces will be extremely slippery.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Wear personal protective equipment.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage : Store in original container. Keep containers tightly closed in a

areas and containers : dry, cool and well-ventilated place.

Further information on storage conditions : Storage must be in accordance with the BetrSichV (Germany).

Protect from frost, heat and sunlight.

Advice on common storage : Keep away from food and drink.

Storage class (TRGS 510) : 12

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
dioctyltin oxide	870-08-6	AGW (Vapour and aerosols)	0,002 ppm 0,01 mg/m3 (Tin)	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		AGW	100 ppm 130 mg/m3	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		MAK	100 ppm 130 mg/m3	DE DFG MAK
	Further information: Danger of absorption through the skin, Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
carbendazim (ISO)	10605-21-7	AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900
	Peak-limit category: 4;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, harm to the unborn child can not be excluded			
		MAK (inhalable fraction)	10 mg/m3	DE DFG MAK
	Further information: According to currently available information damage to the embryo or foetus cannot be excluded after exposure to concentrations at			

	the level of the MAK and BAT values, Germ cell mutagens or suspected substances (according to the definition of Category 3 A and 3B), the potency of which is considered to be so low that, provided the MAK and BAT values are observed, their contribution to genetic risk for man is considered to be very slight

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
methanol	67-56-1	Methanol: 15 mg/l (Urine)	In case of long-term exposure: after more than one shift, Immediately after exposure or after working hours	TRGS 903
		Methanol: 30 mg/l (Urine)	end of shift, for long-term exposures after several previous shifts, Immediately after exposition or after working hours	DE DFG BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Routes of exposure	Potential health effects	Value
Trimethoxyvinylsilane	Workers	Inhalation	Long-term systemic effects	27,6 mg/m3
	Workers	Skin contact	Long-term systemic effects	3,9 mg/kg
	Consumers	Inhalation	Long-term systemic effects	18,9 mg/m3
	Consumers	Skin contact	Long-term systemic effects	7,8 mg/kg
	Consumers	Oral	Long-term systemic effects	0,3 mg/kg
octamethylcyclotetrasiloxane	Workers	Inhalation	Long-term systemic effects, Long-term local effects	73 mg/m3
	Consumers	Oral	Long-term systemic effects	3,7 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	13 mg/m3
methanol	Consumers	Oral	Long-term systemic effects, Acute systemic effects	4 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects, Acute systemic effects	4 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Acute systemic effects, Long-	26 mg/m3

			term local effects, Acute local effects	
	Workers	Inhalation	Long-term systemic effects, Acute systemic effects, Acute local effects, Long-term local effects	130 mg/m3
	Workers	Skin contact	Long-term systemic effects, Acute systemic effects	20 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
octamethylcyclotetrasiloxane	Fresh water	0,0015 mg/l
	Sea water	0,00015 mg/l
	Fresh water sediment	3 mg/kg dry weight (d.w.)
	Sea sediment	0,3 mg/kg dry weight (d.w.)
	Soil	0,84 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	10 mg/l
	Oral (Secondary Poisoning)	41 mg/kg food

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material	:	butyl-rubber
Break through time	:	> 480 min
Glove thickness	:	>= 0,3 mm
Directive	:	DIN EN 374
Protective index	:	Class 6

Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	>= 0,1 mm
Directive	:	DIN EN 374
Protective index	:	Class 6

Remarks : Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Preventive skin protection

Skin and body protection : Please wear suitable protective clothing, e.g. made of cotton or heat-resistant synthetic fibres.

		Long sleeved clothing
Respiratory protection	:	Apply technical measures to comply with the occupational exposure limits. No personal respiratory protective equipment normally required. In case of inadequate ventilation wear respiratory protection.
Protective measures	:	Ensure that eye flushing systems and safety showers are located close to the working place. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Soil	:	Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	paste
Color	:	transparent
Odor	:	characteristic
Melting point/freezing point	:	not determined
Initial boiling point and boiling range	:	Not applicable
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Flash point	:	Not applicable
Autoignition temperature	:	not determined

pH	:	not determined substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	not determined
Vapor pressure	:	< 100 hPa (20 °C)
Density	:	1,03 g/cm3 (20 °C)

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if used as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

Possible decomposition products in case of hydrolyzis are:
Methanol

SECTION 11: Toxicological information

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

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 20 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

Components:

Trimethoxyvinylsilane:

Acute oral toxicity	:	LD50 Oral (Rat): 7.120 - 7.236 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): 16,8 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 3.259 - 3.880 mg/kg Method: OECD Test Guideline 402

dioctyltin oxide:

Acute oral toxicity	:	LD50 Oral (Rat): > 4.000 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rat): > 2.000 mg/kg Method: OECD Test Guideline 402

octamethylcyclotetrasiloxane:

Acute oral toxicity	:	LD50 Oral (Rat): > 4.800 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): 36 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403

Acute dermal toxicity	:	LD50 Dermal (Rat): > 2.400 mg/kg Method: OECD Test Guideline 402

methanol:

Acute oral toxicity	:	Acute toxicity estimate: 100 mg/kg Method: Expert judgment LD50 (Rat): 1.187 - 2.769 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Expert judgment
Acute dermal toxicity	:	Acute toxicity estimate: 300 mg/kg Method: Expert judgment LD50 Dermal (Rabbit): 17.100 mg/kg

carbendazim (ISO):

Acute oral toxicity	:	LD50 Oral (Rat): > 6.400 mg/kg Method: OECD Test Guideline 401

decamethylcyclopentasiloxane:

Acute oral toxicity	:	LD50 (Rat): > 5.000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): 8,67 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit): > 2.000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

dodecamethylcyclohexasiloxane:

Acute oral toxicity	:	LD50 Oral (Rat): > 2.000 mg/kg Method: OECD Test Guideline 423
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 Dermal (Rat): > 2.000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

Not classified due to lack of data.

Serious eye damage/eye irritation
Not classified due to lack of data.

Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified due to lack of data.

Components:

Trimethoxyvinylsilane:

Assessment	:	The product is a skin sensitizer, sub-category 1B.

carbendazim (ISO):

Assessment	:	May cause sensitization by skin contact.

Germ cell mutagenicity
Not classified due to lack of data.

Carcinogenicity
Not classified due to lack of data.

Reproductive toxicity
Not classified due to lack of data.

Components:

dioctyltin oxide:

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT-single exposure
Not classified due to lack of data.

Components:

dioctyltin oxide:

Assessment	:	May cause damage to organs.

STOT-repeated exposure
Not classified due to lack of data.

Aspiration toxicity
Not classified due to lack of data.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Trimethoxyvinylsilane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 191 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 168,7 mg/l Exposure time: 48 h Method: Regulation (EC) No. 440/2008, Annex, C.2
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 89 mg/l End point: Growth rate Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Bacteria): > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 28,1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

dioctyltin oxide:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 0,09 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0,21 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: No toxicity at the limit of solubility.
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 0,002 mg/l End point: Growth rate Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: No toxicity at the limit of solubility.

Ecotoxicology Assessment

Chronic aquatic toxicity	:	May cause long lasting harmful effects to aquatic life.

octamethylcyclotetrasiloxane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 0,022 mg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): >= 0,015 mg/l Exposure time: 48 h Remarks: No toxicity at the limit of solubility.
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 0,022 mg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility.
Toxicity to fish (Chronic toxicity)	:	NOEC: >= 0,0044 mg/l Exposure time: 93 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: >= 0,015 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	10

methanol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 15.400 mg/l Exposure time: 96 h Method: EPA-660/3-75-00
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10.000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): ca. 22.000 mg/l End point: Growth rate Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC: 450 mg/l Exposure time: 90 d Species: Fish
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 208 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

carbendazim (ISO):

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,15 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 1,3 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
M-Factor (Chronic aquatic toxicity)	:	10

decamethylcyclopentasiloxane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): >16 µg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): >2,9 µg/l Exposure time: 48 h Remarks: No toxicity at the limit of solubility.
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): >12 µg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility.
Toxicity to fish (Chronic toxicity)	:	NOEC: >14 µg/l Exposure time: 90 d Species: Oncorhynchus mykiss (rainbow trout) Remarks: No toxicity at the limit of solubility.

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

dodecamethylcyclohexasiloxane:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,0046 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: No toxicity at the limit of solubility.

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.

12.2 Persistence and degradability

Components:

Trimethoxyvinylsilane:

Biodegradability : Result: Readily biodegradable.

octamethylcyclotetrasiloxane:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 3,7 %
Exposure time: 29 d
Method: OECD Test Guideline 310

methanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 71,5 - 95 %
Method: OECD Test Guideline 301D

carbendazim (ISO):

Biodegradability : Result: Not biodegradable

decamethylcyclopentasiloxane:

Biodegradability : Result: not rapidly degradable
Biodegradation: 0,14 %
Exposure time: 28 d
Method: OECD Test Guideline 310

dodecamethylcyclohexasiloxane:

Biodegradability : Result: Not rapidly biodegradable
Biodegradation: 4,5 %
Exposure time: 28 d
Method: OECD Test Guideline 310

12.3 Bioaccumulative potential

Components:

Trimethoxyvinylsilane:

Partition coefficient: n-octanol/water : log Pow: 1,1 (20 °C)

dioctyltin oxide:

Partition coefficient: n-octanol/water : log Pow: 6 (20 °C)

octamethylcyclotetrasiloxane:

Bioaccumulation	:	Species: Pimephales promelas (fathead minnow) Bioconcentration factor (BCF): 12.400
Partition coefficient: n-octanol/water	:	log Pow: 6,49 (25 °C)

methanol:

Bioaccumulation	:	Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): 10
Partition coefficient: n-octanol/water	:	log Pow: -0,77 (20 °C)

carbendazim (ISO):

Partition coefficient: n-octanol/water	:	log Pow: > 1,4 - < 1,5 (25 °C) pH: 5 - < 9

decamethylcyclopentasiloxane:

Bioaccumulation	:	Bioconcentration factor (BCF): 16.200
Partition coefficient: n-octanol/water	:	log Pow: 8,07 (24,6 °C)

dodecamethylcyclohexasiloxane:

Partition coefficient: n-octanol/water	:	log Pow: 8,87 (23,6 °C)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Components:

octamethylcyclotetrasiloxane:

Assessment	:	Substance is very persistent and very bioaccumulative (vPvB).
	:	Substance is persistent, bioaccumulative, and toxic (PBT).

decamethylcyclopentasiloxane:

Assessment	:	Substance is very persistent and very bioaccumulative (vPvB).
	:	Substance is persistent, bioaccumulative, and toxic (PBT).

dodecamethylcyclohexasiloxane:

Assessment : Substance is very persistent and very bioaccumulative (vPvB).

: Substance is persistent, bioaccumulative, and toxic (PBT).

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : No data available

Global warming potential

Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)

Components:

decamethylcyclopentasiloxane:

20-year global warming potential: 1,04
100-year global warming potential: 0,289
500-year global warming potential: 0,082
Atmospheric lifetime: 0,016 yr
Radiative efficiency: 0,098 Wm2ppb
Further information: Miscellaneous compounds

dodecamethylcyclohexasiloxane:

20-year global warming potential: 0,51
100-year global warming potential: 0,142
500-year global warming potential: 0,04
Atmospheric lifetime: 0,011 yr
Radiative efficiency: 0,086 Wm2ppb
Further information: Miscellaneous compounds

octamethylcyclotetrasiloxane:

20-year global warming potential: 2,66
100-year global warming potential: 0,739
500-year global warming potential: 0,211
Atmospheric lifetime: 0,027 yr
Radiative efficiency: 0,12 Wm2ppb
Further information: Miscellaneous compounds

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Do not dispose of with domestic refuse. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Dispose of in accordance with local regulations. Send to a licensed waste management company.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Packaging that is not properly emptied must be disposed of as the unused product. Dispose of in accordance with local regulations.
Waste Code	:	08 04 09, waste adhesives and sealants containing organic solvents or other hazardous substances 08 04 10, waste adhesives and sealants other than those mentioned in 08 04 09 08 04 11, adhesive and sealant sludges containing organic solvents or other hazardous substances 08 04 12, adhesive and sealant sludges other than those mentioned in 08 04 11 15 01 10, packaging containing residues of or contaminated by hazardous substances The following Waste Codes are only suggestions:

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.2 UN proper shipping name

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.4 Packing group

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA (Cargo)	:	Not regulated as a dangerous good
IATA (Passenger)	:	Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 75, 3 If you intend to use this product as tattoo ink, please contact your vendor. decamethylcyclopentasiloxane (Number on list 70) dioctyltin oxide (Number on list 75, 20) octamethylcyclotetrasiloxane (Number on list 70)
REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59).	:	decamethylcyclopentasiloxane dodecamethylcyclohexasiloxane octamethylcyclotetrasiloxane
Regulation (EC) No 1005/2009 on substances that de-	:	Not applicable

plete the ozone layer

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

Water hazard class (Germany) : WGK 2 obviously hazardous to water
Classification according to AwSV, Annex 1 (5.2)

Other regulations:

The product falls under the regulation on biocide products (EU) 528/2012.
The treated article incorporates biocidal products

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical Safety Assessment

A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product.

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapor.
H226	:	Flammable liquid and vapor.
H301	:	Toxic if swallowed.
H311	:	Toxic in contact with skin.
H317	:	May cause an allergic skin reaction.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H340	:	May cause genetic defects.
H360FD	:	May damage fertility. May damage the unborn child.
H361	:	Suspected of damaging fertility or the unborn child.
H361f	:	Suspected of damaging fertility.
H370	:	Causes damage to organs.
H371	:	May cause damage to organs.
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.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Flam. Liq.	:	Flammable liquids
Muta.	:	Germ cell mutagenicity
Repr.	:	Reproductive toxicity
Skin Sens.	:	Skin sensitization
STOT SE	:	Specific target organ toxicity - single exposure
2006/15/EC	:	Europe. Indicative occupational exposure limit values
DE DFG BAT	:	Germany. MAK BAT Annex XIII
DE DFG MAK	:	Germany. MAK BAT Annex IIa
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
TRGS 903	:	c - Biological limit values
2006/15/EC / TWA	:	Limit Value - eight hours
DE DFG MAK / MAK	:	MAK value
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Skin Sens. 1	H317	Calculation method
Aquatic Chronic 3	H412	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

DE / EN