SAFETY DATA SHEET

Safety Data Sheet according to Reg. (EU) 2020/878

Product name: NIMACO SiH 500 NANO

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Genesis Xclusv Group PC., encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product name: NIMACO SiH 500 NANO

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Impregnation agents Additives

1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION

Genesis Xclusv Group PC
34 Kairi Str.
145 76, Dionisos
Attiki
Greece

Customer Information Number:

1.4 EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 00 30 210 8152832
Local Emergency Contact: 00 30 6983 669995
Poison Information Centre Emergency number: 2107793777

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Skin irritation - Category 2 - H315
Long-term (chronic) aquatic hazard - Category 2 - H411
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms

Signal word: WARNING

Hazard statements

H315	Causes skin irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P391	Collect spillage.

Supplemental information

EUH208	Contains: reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

2.3 Other hazards

This product contains octamethylcyclotetrasiloxane (D4) that has been identified by the Member State Committee of ECHA as fulfilling the PBT and vPvB criteria laid down in Annex XIII to Regulation (EC) No 1907/2006. See Section 12 for additional information.

Endocrine disrupting properties

Environment:	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.
Human Health:	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

Chemical nature: Silicone emulsion

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 2943-75-1 **EC-No.** 220-941-2 **Index-No.** –	01-2119972313-39	>= 11,0 - <= 19,0 %	Triethoxy(octyl)silane	Skin Irrit. 2; H315 Acute toxicity estimate Acute oral toxicity: 5 110 mg/kg Acute inhalation toxicity: > 22 ppm, 4 hrs, vapour Acute dermal toxicity: 8 000 mg/kg 6 730 mg/kg
CASRN 68554-54-1 **EC-No.** 614-604-2 **Index-No.** –	_	>= 1,0 - <= 1,4 %	Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated	Skin Irrit. 2; H315 Eye Irrit. 2; H319
CASRN 9002-92-0 **EC-No.** 500-002-6 **Index-No.** –	_	>= 0,8 - <= 1,1 %	Ethoxylated lauryl alcohol	Acute Tox. 4; H332 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 3; H412 M-Factor (Acute aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute inhalation toxicity: > 1,6 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 000 mg/kg
CASRN 66455-14-9 **EC-No.** Polymer **Index-No.** –	_	<= 1,1 %	Alcohols, C12-13, ethoxylated	Eye Irrit. 2; H319 Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute inhalation toxicity: > 1,6 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 000 mg/kg

CASRN 107-46-0 **EC-No.** 203-492-7 **Index-No.** –	_	>= 0,23 - <= 0,4 %	Hexamethyldisiloxane	Flam. Liq. 2; H225 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: > 5 000 mg/kg Acute inhalation toxicity: 106 mg/l, 4 Hour, vapour Acute dermal toxicity: > 2 000 mg/kg
CASRN 556-67-2 **EC-No.** 209-136-7 **Index-No.** 014-018-00-1	_	>= 0,07 - <= 0,11 %	octamethylcyclotetrasiloxane [D4]	Flam. Liq. 3; H226 Repr. 2; H361f Aquatic Chronic 1; H410 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute oral toxicity: > 4 800 mg/kg Acute inhalation toxicity: 36 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 400 mg/kg
CASRN 112-02-7 **EC-No.** 203-928-6 **Index-No.** –	_	>= 0,06 - <= 0,084 %	Hexadecyltrimethylammonium chloride	Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: 699 mg/kg
CASRN 51374-75-5 **EC-No.** 807-818-4 **Index-No.** –	_	>= 0,014 - <= 0,024 %	Hexadecyltrimethylammonium acetate	Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410

				M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: 1 550 mg/kg Acute dermal toxicity: 528 mg/kg
CASRN 112-69-6 **EC-No.** 203-997-2 **Index-No.** –	–	>= 0,0057 - <= 0,0067 %	Hexadecyldimethyl amine	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute oral toxicity: 1 015 mg/kg
CASRN 55965-84-9 **EC-No.** 611-341-5 **Index-No.** 613-167-00-5	–	>= 0,0012 - <= 0,0014 %	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH071 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100 specific concentration limit Skin Corr. 1C; H314 >= 0,6 % Skin Irrit. 2; H315 0,06 - < 0,6 % Eye Irrit. 2; H319 0,06 - < 0,6 % Skin Sens. 1A; H317

				>= 0,0015 % Eye Dam. 1; H318 >= 0,6 % Acute toxicity estimate Acute oral toxicity: 64 mg/kg Acute inhalation toxicity: 0,33 mg/l, 4 Hour, dust/mist Acute dermal toxicity: 87,12 mg/kg

Substances with a workplace exposure limit

CASRN 57-55-6 **EC-No.** 200-338-0 **Index-No.** –	01-2119456809-23	>= 0,8 - <= 1,1 %	Propane-1,2-diol	Not classified Acute toxicity estimate Acute oral toxicity: > 20 000 mg/kg Acute inhalation toxicity: 317,042 mg/l, 2 Hour, dust/mist Acute dermal toxicity: > 2 000 mg/kg

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
General advice:
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: Rinse mouth with water. No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical. Water spray.

Unsuitable extinguishing media: None known..

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides. Nitrogen oxides (NOx).

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health..

5.3 Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. 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.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.. Use personal protective equipment..

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions: Do not release the product to the aquatic environment above defined regulatory levels Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up: Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbant. Local or national

regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.

6.4 Reference to other sections:
See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Do not get on skin or clothing. Avoid inhalation of vapour or mist. Avoid contact with eyes. Do not swallow. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.
CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.
Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers**:** None known.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Hexamethyldisiloxane	IHG	TWA	50 ppm
octamethylcyclotetrasiloxane [D4]	US WEEL	TWA	10 ppm
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	IHG	TWA	0,075 mg/m3 , as 5-chloro-2-methyl-2H-isothiazol-3-one
	IHG	STEL	0,23 mg/m3 , as 5-chloro-2-methyl-2H-isothiazol-3-one
	IHG	TWA	1,5 mg/m3 , as 2-methyl-2H-isothiazol-3-one
	IHG	STEL	4,5 mg/m3 , as 2-methyl-2H-isothiazol-3-one
Propane-1,2-diol	US WEEL	TWA	10 mg/m3

Ethanol	ACGIH	TWA	1 000 ppm
	Further information: URT irr: Upper Respiratory Tract irritation		
	ACGIH	STEL	1 000 ppm
	Further information: URT irr: Upper Respiratory Tract irritation		
	GR OEL	TWA	1 900 mg/m3 1 000 ppm

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:, Ethanol

Recommended monitoring procedures
Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.
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.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.
Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany.
L'Institut National de Recherche et de Securité, (INRS), France.

Derived No Effect Level
Triethoxy(octyl)silane
Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	2,5 mg/kg bw/day	17,6 mg/m3	n.a.	n.a.

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	1,25 mg/kg bw/day	4,3 mg/m3	1,25 mg/kg bw/day	n.a.	n.a.

Hexamethyldisiloxane

Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	333 mg/kg bw/day	53,4 mg/m3	n.a.	n.a.

Consumers

Acute systemic effects			*Acute local effects*		*Long-term systemic effects*			*Long-term local effects*	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	167 mg/kg bw/day	13,3 mg/m3	0,27 mg/kg bw/day	n.a.	n.a.

octamethylcyclotetrasiloxane [D4]

Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	73 mg/m3	n.a.	73 mg/m3

Consumers

Acute systemic effects			*Acute local effects*		*Long-term systemic effects*			*Long-term local effects*	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	13 mg/m3	3,7 mg/kg bw/day	n.a.	13 mg/m3

Hexadecyltrimethyl ammonium chloride

Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	4,7 mg/kg bw/day	n.a.	n.a.	n.a.

Consumers

Acute systemic effects			*Acute local effects*		*Long-term systemic effects*			*Long-term local effects*	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	2,83 mg/kg bw/day	n.a.	n.a.	n.a.	n.a.

Propane-1,2-diol

Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation

n.a.	n.a.	n.a.	n.a.	n.a.	168 mg/m3	n.a.	10 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	50 mg/m3	n.a.	n.a.	10 mg/m3

Predicted No Effect Concentration

Triethoxy(octyl)silane

Compartment	**PNEC**
Fresh water	0,00189 mg/l
Marine water	0,000189 mg/l
Fresh water sediment	4,2 mg/kg
Marine sediment	0,42 mg/kg
Sewage treatment plant	100 mg/l
Oral	10 mg/kg food

Hexamethyldisiloxane

Compartment	**PNEC**
Fresh water	0,002 mg/l
Intermittent use/release	0,003 mg/l
Marine water	0,0002 mg/l
Sewage treatment plant	10 mg/l
Fresh water sediment	8,9 mg/kg
Marine sediment	0,890 mg/kg
Soil	0,080 mg/kg
Oral	5,3 mg/kg

octamethylcyclotetrasiloxane [D4]

Compartment	**PNEC**
Fresh water	0,0015 mg/l
Marine water	0,00015 mg/l
Fresh water sediment	3 mg/kg
Marine sediment	0,3 mg/kg
Soil	0,54 mg/kg
Sewage treatment plant	10 mg/l
Oral	41 mg/kg food

Hexadecyltrimethyl ammonium chloride

Compartment	**PNEC**
Fresh water	0,00042 mg/l
Marine water	0,000042 mg/l
Intermittent use/release	0,000012 mg/l
Sewage treatment plant	0,4 mg/l
Fresh water sediment	68 mg/kg

Marine sediment	6,8 mg/kg
Soil	1,66 mg/kg

Propane-1,2-diol

Compartment	**PNEC**
Fresh water	260 mg/l
Marine water	26 mg/l
Intermittent use/release	183 mg/l
Sewage treatment plant	20000 mg/l
Fresh water sediment	572 mg/kg
Marine sediment	57,2 mg/kg
Soil	50 mg/kg

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Natural rubber ("latex"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit

requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator.
Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (meeting standard EN 14387).

Environmental exposure controls
See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	liquid
Color	white
Odor	not significant
Odor Threshold	No data available
pH	4 - 5,5
Melting point/freezing point	
Melting point/range	No data available
Freezing point	not determined
Boiling point or initial boiling point and boiling range	
Boiling point (760 mmHg)	> 35 °C
Flash point	**closed cup** >100 °C
Flammability (solid, gas)	Not applicable
Flammability (liquids)	not determined
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1
Solubility(ies)	
Water solubility	not determined
Partition coefficient: n-octanol/water	not determined
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	No data available
Particle characteristics	
Particle size	Not applicable

9.2 Other information

Molecular weight	No data available
Dynamic Viscosity	50 mPa.s

Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Self-heating substances	The substance or mixture is not classified as self heating.
Metal corrosion rate	Not corrosive to metals
Evaporation Rate (Butyl Acetate = 1)	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not classified as a reactivity hazard.

10.2 Chemical stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions: Can react with strong oxidizing agents.

10.4 Conditions to avoid: None known.

10.5 Incompatible materials: Avoid contact with oxidizing materials.

10.6 Hazardous decomposition products:
Decomposition products can include and are not limited to: Ethanol. Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

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

Information on likely routes of exposure
Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Information for the Product:

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 5 000 mg/kg Estimated.

Information for components:

Triethoxy(octyl)silane
LD50, Rat, male and female, 5 110 mg/kg OECD 401 or equivalent

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
Single dose oral LD50 has not been determined.

Ethoxylated lauryl alcohol
Based on data from similar materials LD50, Rat, > 2 000 mg/kg

Alcohols, C12-13, ethoxylated
Single dose oral LD50 has not been determined.

For similar material(s): LD50, Rat, > 2 000 mg/kg

Hexamethyldisiloxane
LD50, Rat, > 5 000 mg/kg

octamethylcyclotetrasiloxane [D4]
LD50, Rat, male, > 4 800 mg/kg No deaths occurred at this concentration.

Hexadecyltrimethyl ammonium chloride
LD50, Rat, 699 mg/kg

Hexadecyltrimethylammonium acetate
Based on data from similar materials LD50, Rat, 1 550 mg/kg

Hexadecyldimethylamine
For similar material(s): LD50, Rat, male and female, 1 015 mg/kg

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
LD50, Rat, 64 mg/kg

Propane-1,2-diol
LD50, Rat, > 20 000 mg/kg

Acute dermal toxicity

Information for the Product:

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rabbit, > 5 000 mg/kg Estimated.

Information for components:

Triethoxy(octyl)silane

LD50, Rabbit, female, 8 000 mg/kg OECD 402 or equivalent

LD50, Rabbit, male, 6 730 mg/kg OECD 402 or equivalent

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
The dermal LD50 has not been determined.

Ethoxylated lauryl alcohol
Based on data from similar materials LD50, Rat, > 2 000 mg/kg

Alcohols, C12-13, ethoxylated
The dermal LD50 has not been determined.

For similar material(s): LD50, Rat, > 2 000 mg/kg OECD Test Guideline 402

Hexamethyldisiloxane
LD50, Rat, > 2 000 mg/kg No deaths occurred at this concentration.

octamethylcyclotetrasiloxane [D4]
LD50, Rat, male and female, > 2 400 mg/kg No deaths occurred at this concentration.

Hexadecyltrimethyl ammonium chloride
Absorption has not been determined due to corrosivity.

Hexadecyltrimethylammonium acetate
Based on data from similar materials LD50, Rabbit, 528 mg/kg OECD Test Guideline 402

Hexadecyldimethylamine
The dermal LD50 has not been determined.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
LD50, Rabbit, 87,12 mg/kg

Propane-1,2-diol
LD50, Rabbit, > 2 000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

Information for the Product:

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material or mist may cause respiratory irritation.

As product: The LC50 has not been determined.

Information for components:

Triethoxy(octyl)silane
LC50, Rat, male and female, 4 hrs, vapour, > 22 ppm OECD Test Guideline 403 No deaths occurred at this concentration.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
The LC50 has not been determined.

Ethoxylated lauryl alcohol
Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 1,6 mg/l

Alcohols, C12-13, ethoxylated
The LC50 has not been determined.

For similar material(s): LC50, Rat, male, 4 Hour, dust/mist, > 1,6 mg/l

Hexamethyldisiloxane
LC50, Rat, male and female, 4 Hour, vapour, 106 mg/l OECD Test Guideline 403

octamethylcyclotetrasiloxane [D4]
LC50, Rat, male and female, 4 Hour, dust/mist, 36 mg/l OECD Test Guideline 403

Hexadecyltrimethyl ammonium chloride
The LC50 has not been determined.

Hexadecyltrimethylammonium acetate
Prolonged excessive exposure may cause adverse effects. May cause respiratory tract irritation.

The LC50 has not been determined.

Hexadecyldimethylamine
The LC50 has not been determined.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
LC50, Rat, 4 Hour, dust/mist, 0,33 mg/l

Propane-1,2-diol
LC50, Rabbit, 2 Hour, dust/mist, 317,042 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Information for the Product:

Based on information for component(s):
Brief contact may cause moderate skin irritation with local redness.
Repeated contact may cause flaking and softening of skin.

Information for components:

Triethoxy(octyl)silane
Brief contact may cause moderate skin irritation with local redness.
Prolonged contact may cause moderate skin irritation with local redness.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
For similar material(s):
Brief contact may cause skin irritation with local redness.

Ethoxylated lauryl alcohol
Brief contact may cause skin irritation with local redness.

Alcohols, C12-13, ethoxylated
Prolonged contact may cause slight skin irritation with local redness.

Hexamethyldisiloxane
Brief contact is essentially nonirritating to skin.
Prolonged contact may cause skin irritation with local redness.
May cause more severe response on covered skin (under clothing, gloves).

octamethylcyclotetrasiloxane [D4]
Brief contact is essentially nonirritating to skin.

Hexadecyltrimethyl ammonium chloride
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Hexadecyltrimethylammonium acetate
For similar material(s):
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Hexadecyldimethylamine
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Propane-1,2-diol
Prolonged contact is essentially nonirritating to skin.
Repeated contact may cause flaking and softening of skin.

Serious eye damage/eye irritation

Information for the Product:

Based on information for component(s):
May cause slight eye irritation.
May cause mild eye discomfort.

Information for components:

Triethoxy(octyl)silane
May cause slight eye irritation.

Corneal injury is unlikely.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
For similar material(s):
May cause eye irritation.
May cause corneal injury.

Ethoxylated lauryl alcohol
May cause eye irritation.

Alcohols, C12-13, ethoxylated
May cause moderate eye irritation.

Hexamethyldisiloxane
May cause slight temporary eye irritation.
Corneal injury is unlikely.
Vapor or mist may cause eye irritation.

octamethylcyclotetrasiloxane [D4]
Essentially nonirritating to eyes.

Hexadecyltrimethyl ammonium chloride
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Hexadecyltrimethylammonium acetate
For similar material(s):
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Hexadecyldimethylamine
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Propane-1,2-diol
May cause slight temporary eye irritation.
Corneal injury is unlikely.
Mist may cause eye irritation.

Sensitization

Information for the Product:

For skin sensitization:
Contains component(s) which have caused allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No relevant data found.

Information for components:

Triethoxy(octyl)silane
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Ethoxylated lauryl alcohol
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Alcohols, C12-13, ethoxylated
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Hexamethyldisiloxane
Did not cause allergic skin reactions when tested in humans.
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

octamethylcyclotetrasiloxane [D4]
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Hexadecyltrimethyl ammonium chloride
For skin sensitization:
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Hexadecyltrimethylammonium acetate
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Hexadecyldimethylamine
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
For skin sensitization:
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Propane-1,2-diol
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Information for the Product:

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Triethoxy(octyl)silane
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
Available data are inadequate to determine single exposure specific target organ toxicity.

Ethoxylated lauryl alcohol
Available data are inadequate to determine single exposure specific target organ toxicity.

Alcohols, C12-13, ethoxylated
Available data are inadequate to determine single exposure specific target organ toxicity.

Hexamethyldisiloxane
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

octamethylcyclotetrasiloxane [D4]

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Hexadecyltrimethyl ammonium chloride
Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Hexadecyldimethylamine
Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Propane-1,2-diol
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration Hazard

Information for the Product:

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

Triethoxy(octyl)silane
May be harmful if swallowed and enters airways.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
Based on available information, aspiration hazard could not be determined.

Ethoxylated lauryl alcohol
Based on available information, aspiration hazard could not be determined.

Alcohols, C12-13, ethoxylated
Based on available information, aspiration hazard could not be determined.

Hexamethyldisiloxane
Based on available information, aspiration hazard could not be determined.

octamethylcyclotetrasiloxane [D4]
May be harmful if swallowed and enters airways.

Hexadecyltrimethyl ammonium chloride
Based on physical properties, not likely to be an aspiration hazard.

Hexadecyldimethylamine
Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Aspiration into the respiratory system may occur during ingestion or vomiting. Due to corrosivity, tissue damage or lung injury may occur.

Propane-1,2-diol
Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Information for the Product:

Contains component(s) which have been reported to cause effects on the following organs in animals:
Urinary tract.
Liver
Findings from a combined repeated-dose toxicity study with reproductive/developmental screening endpoints on n-octyltriethoxysilanehave shown neurological effects in rats at high doses (1000 mg/kg). Paralysis and paresis of the limbs, and demyelination of the brain, spinal cord, sciatic and tibial nerves was noted in some animals.

Information for components:

Triethoxy(octyl)silane
In animals, effects have been reported on the following organs:
Urinary tract.
Findings from a combined repeated-dose toxicity study with reproductive/developmental screening endpoints on n-octyltriethoxysilanehave shown neurological effects in rats at high doses (1000 mg/kg). Paralysis and paresis of the limbs, and demyelination of the brain, spinal cord, sciatic and tibial nerves was noted in some animals.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
No relevant data found.

Ethoxylated lauryl alcohol
For similar material(s):
Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Alcohols, C12-13, ethoxylated
No relevant data found.

Hexamethyldisiloxane
In animals, effects have been reported on the following organs:
Liver.
Testes.
Kidney.
However, the effects are species specific and are not relevant to humans.
This material contains hexamethyldisiloxane (HMDS). Repeated inhalation exposure in rats to HMDS resulted in protoporphyrin accumulation in the liver. Without knowledge of the

specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

octamethylcyclotetrasiloxane [D4]
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Respiratory tract.
Female reproductive organs.

Hexadecyltrimethyl ammonium chloride
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Hexadecyldimethylamine
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

Propane-1,2-diol
In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Carcinogenicity

Information for the Product:

No relevant data found.

Information for components:

Triethoxy(octyl)silane
No relevant data found.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
No relevant data found.

Ethoxylated lauryl alcohol
No relevant data found.

Alcohols, C12-13, ethoxylated
No relevant data found.

Hexamethyldisiloxane
Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Early onset of testicular cell tumors has been observed that are spontaneous and common in rats. These effects are believed to be species specific and unlikely to occur in humans.

octamethylcyclotetrasiloxane [D4]
Results from a 2 year repeated vapour inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

Hexadecyltrimethyl ammonium chloride
No relevant data found.

Hexadecyldimethylamine
For similar material(s): Did not cause cancer in laboratory animals.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Did not cause cancer in laboratory animals.

Propane-1,2-diol
Did not cause cancer in laboratory animals.

Teratogenicity

Information for the Product:

Contains component(s) which, in laboratory animals, have been toxic to the fetus only at doses toxic to the mother. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Information for components:

Triethoxy(octyl)silane
Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
No relevant data found.

Ethoxylated lauryl alcohol
No relevant data found.

Alcohols, C12-13, ethoxylated
No relevant data found.

Hexamethyldisiloxane
Did not cause birth defects or any other fetal effects in laboratory animals.

octamethylcyclotetrasiloxane [D4]
Did not cause birth defects or any other fetal effects in laboratory animals.

Hexadecyltrimethyl ammonium chloride
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Hexadecyldimethylamine
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Propane-1,2-diol
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

Information for the Product:

In animal studies on component(s), effects on reproduction were seen only at doses that produced significant toxicity to the parent animals. Contains component(s) which have interfered with fertility in animal studies.

Information for components:

Triethoxy(octyl)silane
In animal studies, did not interfere with reproduction.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
No relevant data found.

Ethoxylated lauryl alcohol
No relevant data found.

Alcohols, C12-13, ethoxylated
No relevant data found.

Hexamethyldisiloxane
In animal studies, did not interfere with reproduction.

octamethylcyclotetrasiloxane [D4]
In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. In animal studies, has been shown to interfere with fertility.

Hexadecyltrimethyl ammonium chloride
For similar material(s): In animal studies, did not interfere with reproduction.

Hexadecyldimethylamine
For similar material(s): In animal studies, did not interfere with reproduction.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
In animal studies, did not interfere with reproduction.

Propane-1,2-diol
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

Information for the Product:

In vitro genetic toxicity studies were negative for component(s) tested.

Information for components:

Triethoxy(octyl)silane
In vitro genetic toxicity studies were negative.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
No relevant data found.

Ethoxylated lauryl alcohol
In vitro genetic toxicity studies were negative.

Alcohols, C12-13, ethoxylated
No relevant data found.

Hexamethyldisiloxane
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

octamethylcyclotetrasiloxane [D4]
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Hexadecyltrimethyl ammonium chloride
For similar material(s): In vitro genetic toxicity studies were negative.

Hexadecyldimethylamine
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects

Propane-1,2-diol
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

11.2 Information on other hazards

Endocrine disrupting properties

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.

Information for components:

Triethoxy(octyl)silane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Ethoxylated lauryl alcohol
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Alcohols, C12-13, ethoxylated
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexamethyldisiloxane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

octamethylcyclotetrasiloxane [D4]
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexadecyltrimethyl ammonium chloride
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexadecyltrimethylammonium acetate
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexadecyldimethylamine
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Propane-1,2-diol
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity

Triethoxy(octyl)silane

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), flow-through, 96 hrs, > 0,055 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), flow-through test, 48 hrs, > 0,049 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 hrs, Growth rate inhibition, > 0,13 mg/l, OECD Test Guideline 201 or Equivalent
No toxicity at the limit of solubility
NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 hrs, Growth rate inhibition, > 0,13 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, activated sludge, 3 Hour, Respiration rates., > 1 000 mg/l, activated sludge test (OECD 209)

Chronic toxicity to fish
No toxicity at the limit of solubility
NOEC, Fathead minnow (Pimephales promelas), 32 d, mortality, > 0,036 mg/l

Chronic toxicity to aquatic invertebrates
No toxicity at the limit of solubility
NOEC, Daphnia magna (Water flea), 21 d, number of offspring, >= 0,199 mg/l

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated

Acute toxicity to fish
No relevant data found.

Ethoxylated lauryl alcohol

Acute toxicity to fish
Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
LC50, Danio rerio (zebra fish), 96 Hour, > 1 - 10 mg/l

Acute toxicity to aquatic invertebrates
Based on data from similar materials
EC50, Daphnia magna (Water flea), 48 Hour, > 1 - 10 mg/l

Acute toxicity to algae/aquatic plants
Based on data from similar materials
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0,1 - 1 mg/l
Based on data from similar materials
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0,1 - 1 mg/l

Chronic toxicity to fish
Based on data from similar materials
NOEC, Lepomis macrochirus (Bluegill sunfish), 30 d, > 0,1 - 1 mg/l

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, > 0,1 - 1 mg/l

Alcohols, C12-13, ethoxylated

Acute toxicity to fish
No relevant data found.

Hexamethyldisiloxane

Acute toxicity to fish
Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0,46 mg/l

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, > 0,55 mg/l, OECD Test Guideline 201

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 0,08 mg/l

octamethylcyclotetrasiloxane [D4]

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), flow-through, 96 Hour, > 0,022 mg/l
No toxicity at the limit of solubility

LC50, Cyprinodon variegatus (sheepshead minnow), flow-through, 14 d, > 0,0063 mg/l

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Mysidopsis bahia (opossum shrimp), flow-through test, 96 Hour, > 0,0091 mg/l
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 0,015 mg/l

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, > 0,022 mg/l
No toxicity at the limit of solubility
EC10, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, >= 0,022 mg/l

Chronic toxicity to fish
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 93 d, growth, >= 0,0044 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, survival, 0,0079 mg/l

Hexadecyltrimethyl ammonium chloride

Acute toxicity to fish
Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
LC50, Danio rerio (zebra fish), 96 Hour, 0,19 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 0,012 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0,113 mg/l, OECD Test Guideline 201 or Equivalent
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0,068 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Pseudomonas putida, 16 Hour, Growth inhibition, 0,96 mg/l, DIN 38 412 Part 8

Chronic toxicity to fish
Based on data from similar materials
NOEC, Pimephales promelas (fathead minnow), 28 d, mortality, 0,0322 mg/l

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0,00415 mg/l

Hexadecyltrimethylammonium acetate

Acute toxicity to fish
Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
Based on data from similar materials

LC50, Danio rerio (zebra fish), 96 Hour, 0,19 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
Based on data from similar materials
EC50, Daphnia magna (Water flea), 48 Hour, 0,28 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
Based on data from similar materials
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0,08 mg/l, OECD Test Guideline 201
Based on data from similar materials
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0,04 mg/l, OECD Test Guideline 201

Chronic toxicity to fish
Based on data from similar materials
NOEC, Pimephales promelas (fathead minnow), 28 d, 0,032 mg/l

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, > 0,001 - < 0,01 mg/l

Hexadecyldimethylamine

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
For similar material(s):
LC50, Rainbow trout (Oncorhynchus mykiss), 96 Hour, 0,18 mg/l

Acute toxicity to aquatic invertebrates
Based on data from similar materials
EC50, Daphnia magna (Water flea), 48 Hour, 66,5 µg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
For similar material(s):
ErC50, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate, 9,9 µg/l, OECD Test Guideline 201
For similar material(s):
NOEC, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate, 0,5 µg/l, OECD Test Guideline 201

Toxicity to bacteria
For similar material(s):
EC50, activated sludge, 3 Hour, Respiration rates., 13 mg/l, Activated Sludge, Respiration Inhibition

Chronic toxicity to aquatic invertebrates
For similar material(s):
NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0,036 mg/l

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Acute toxicity to fish

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0,19 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), flow-through test, 48 Hour, 0,16 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
NOEC, Skeletonema costatum (marine diatom), Static, 48 Hour, 0,00049 mg/l, OECD Test Guideline 201
ErC50, Skeletonema costatum (marine diatom), Static, 48 Hour, 0,0052 mg/l, OECD Test Guideline 201

Chronic toxicity to fish
NOEC, Rainbow trout (Oncorhynchus mykiss), flow-through, 14 d, 0,05 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, flow-through test, 21 d, 0,1 mg/l

Propane-1,2-diol

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 40 613 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
LC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 18 340 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19 000 mg/l, OECD Test Guideline 201

Toxicity to bacteria
NOEC, Pseudomonas putida, 18 Hour, > 20 000 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, number of offspring, 13 020 mg/l

12.2 Persistence and degradability

Triethoxy(octyl)silane

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
10-day Window: Fail
Biodegradation: 31,5 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent

Stability in Water (1/2-life)
, 30 Hour, pH 7, Half-life Temperature 20 °C, Estimated.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
Biodegradability: No relevant data found.

Ethoxylated lauryl alcohol
Biodegradability: Based on data from similar materials Material is expected to be readily biodegradable.

Alcohols, C12-13, ethoxylated
Biodegradability: No relevant data found.

Hexamethyldisiloxane
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
This material rapidly hydrolyzes to products that are either readily or ultimately biodegradable.
10-day Window: Not applicable
Biodegradation: 2 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Stability in Water (1/2-life)
Hydrolyses on contact with water.

octamethylcyclotetrasiloxane [D4]
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 3,7 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Stability in Water (1/2-life)
Hydrolysis, DT50, 3,9 d, pH 7, Half-life Temperature 25 °C, OECD Test Guideline 111
Hydrolysis, DT50, 16,7 d, pH 7, Half-life Temperature 12 °C, OECD Test Guideline 111
Hydrolysis, DT50, 0,075 d, pH 4, Half-life Temperature 25 °C, OECD Test Guideline 111

Hexadecyltrimethyl ammonium chloride
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Fail
Biodegradation: > 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent

Hexadecyltrimethylammonium acetate
Biodegradability: Based on data from similar materials
Biodegradation: 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Hexadecyldimethylamine

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
For similar material(s): 10-day Window: Fail
Biodegradation: > 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Biodegradability: Considered to be rapidly degradable. Material is not readily biodegradable according to OECD/EEC guidelines.

Biodegradation: < 50 %
Exposure time: 10 d

Photodegradation
Atmospheric half-life: 0,38 - 1,3 d

Propane-1,2-diol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
10-day Window: Pass
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

12.3 Bioaccumulative potential

Triethoxy(octyl)silane

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 6,41 OECD Test Guideline 117 or Equivalent
Bioconcentration factor (BCF): 1 890 Carp (Cyprinus carpio) 56 d OECD Test Guideline 305 or Equivalent

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated

Bioaccumulation: No relevant data found.

Ethoxylated lauryl alcohol

Bioaccumulation: Based on data from similar materials Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Bioconcentration factor (BCF): < 500

Alcohols, C12-13, ethoxylated

Bioaccumulation: No relevant data found.

Hexamethyldisiloxane

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Reacts with water.
Partition coefficient: n-octanol/water(log Pow): 4,20 Measured
Bioconcentration factor (BCF): 1 300 Fish Measured

octamethylcyclotetrasiloxane [D4]

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 6,49 Measured
Bioconcentration factor (BCF): 12 400 Pimephales promelas (fathead minnow) Measured

Hexadecyltrimethyl ammonium chloride

Bioaccumulation: Based on data from similar materials Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 3,08 Estimated by Structure-Activity Relationship (SAR).
Bioconcentration factor (BCF): 33 - 160 Lepomis macrochirus (Bluegill sunfish)

Hexadecyltrimethylammonium acetate

Bioaccumulation: Based on data from similar materials
Partition coefficient: n-octanol/water(log Pow): > 6,91

Hexadecyldimethylamine

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). For similar material(s):
Partition coefficient: n-octanol/water(log Pow): 4,6 Estimated.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). 2-Methyl-4-isothiazolin-3-one(MIT): 5-Chloro-2-methyl-4-isothiazolin-3-one (CMIT):
Partition coefficient: n-octanol/water(log Pow): -0,486 Measured **Partition coefficient: n-octanol/water(log Pow):** 0,401 Measured

Propane-1,2-diol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -1,07 Measured
Bioconcentration factor (BCF): 0,09 Fish Estimated.

12.4 Mobility in soil

Triethoxy(octyl)silane

Partition coefficient (Koc): > 5000 Estimated.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated

No relevant data found.

Ethoxylated lauryl alcohol

No relevant data found.

Alcohols, C12-13, ethoxylated

No relevant data found.

Hexamethyldisiloxane
Partition coefficient (Koc): 390 - 4600 Estimated.

octamethylcyclotetrasiloxane [D4]
Partition coefficient (Koc): 16596 OECD Test Guideline 106

Hexadecyltrimethyl ammonium chloride
No relevant data found.

Hexadecyldimethylamine
No relevant data found.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): 28 Estimated.

Propane-1,2-diol
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): < 1 Estimated.

12.5 Results of PBT and vPvB assessment

Triethoxy(octyl)silane
This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated
This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ethoxylated lauryl alcohol
This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Alcohols, C12-13, ethoxylated
This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Hexamethyldisiloxane
This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

octamethylcyclotetrasiloxane [D4]
Octamethylcyclotetrasiloxane (D4) meets the current criteria for PBT and vPvB under REACh Annex XIII or other regionally specific criteria. However, D4 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.
This substance is considered to be persistent, bioaccumulating and toxic (PBT).

This substance is considered to be very persistent and very bioaccumulating (vPvB).

Hexadecyltrimethyl ammonium chloride

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Hexadecyltrimethylammonium acetate

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Hexadecyldimethylamine

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Propane-1,2-diol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

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.

Triethoxy(octyl)silane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Ethoxylated lauryl alcohol

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Alcohols, C12-13, ethoxylated

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexamethyldisiloxane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

octamethylcyclotetrasiloxane [D4]

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexadecyltrimethyl ammonium chloride

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexadecyltrimethylammonium acetate

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Hexadecyldimethylamine

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Propane-1,2-diol

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

Triethoxy(octyl)silane

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Siloxanes and Silicones, di-Me, polymers with 3-[(2-aminoethyl)amino]propyl silsesquioxanes, hydroxy-terminated

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Ethoxylated lauryl alcohol

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Alcohols, C12-13, ethoxylated

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Hexamethyldisiloxane

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

octamethylcyclotetrasiloxane [D4]

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Hexadecyltrimethyl ammonium chloride

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Hexadecyltrimethylammonium acetate
This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Hexadecyldimethylamine
This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Propane-1,2-diol
This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1	**UN number or ID number**	UN 3082
14.2	**UN proper shipping name**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Triethoxy(octyl)silane, Octamethyl Cyclotetrasiloxane)
14.3	**Transport hazard class(es)**	9
14.4	**Packing group**	III
14.5	**Environmental hazards**	Triethoxy(octyl)silane, Octamethyl Cyclotetrasiloxane
14.6	**Special precautions for user**	Hazard Identification Number: 90

Classification for SEA transport (IMO-IMDG):

14.1	**UN number or ID number**	UN 3082
14.2	**UN proper shipping name**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Triethoxy(octyl)silane, Octamethyl Cyclotetrasiloxane)
14.3	**Transport hazard class(es)**	9
14.4	**Packing group**	III
14.5	**Environmental hazards**	Triethoxy(octyl)silane, Octamethyl Cyclotetrasiloxane
14.6	**Special precautions for user**	EmS: F-A, S-F

14.7	**Maritime transport in bulk according to IMO instruments**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	**UN number or ID number**	UN 3082
14.2	**UN proper shipping name**	Environmentally hazardous substance, liquid, n.o.s.(Triethoxy(octyl)silane, Octamethyl Cyclotetrasiloxane)
14.3	**Transport hazard class(es)**	9
14.4	**Packing group**	III
14.5	**Environmental hazards**	Not applicable
14.6	**Special precautions for user**	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

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

REACh Regulation (EC) No 1907/2006
This product contains only components that have been either registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either registered or are exempt from registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer´s/user´s responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: Number on list 3 octamethylcyclotetrasiloxane [D4] (Number on list 70)

Authorisation status under REACH:
The following substance/s contained in this product might be or is/are subject to authorization in accordance with REACH:

CAS-No.: 556-67-2	Name: octamethylcyclotetrasiloxane [D4]

Authorisation status: listed in the Candidate List of Substances of Very High Concern for Authorisation
Authorisation number: Not available
Sunset date: Not available
Exempted (Categories of) Uses: Not available

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Listed in Regulation: ENVIRONMENTAL HAZARDS
Number in Regulation: E2
200 t
500 t

Further information
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

15.2 Chemical safety assessment
No Chemical Safety Assessment has been carried out for this substance/mixture.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic 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.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H361f	Suspected of damaging fertility.
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.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
Skin Irrit. - 2 - H315 - Calculation method
Aquatic Chronic - 2 - H411 - Calculation method

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
GR OEL	Greece. Exposure limit values
STEL	Short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)
Acute Tox.	Acute toxicity
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation

Full text of other abbreviations
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European 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

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

GENESIS XCLUSV GROUP PC., urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.
GR