



# SAFETY DATA SHEET

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH

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

**Product name: DOWSIL™ 3363 Insulating Glass Sealant  
Catalyst Black**

**Revision Date:** 24.12.2021

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DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH 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:** DOWSIL™ 3363 Insulating Glass Sealant Catalyst Black  
**UFI:** 4T08-C0PY-500W-PAUJ

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

**Identified uses:** Vulcanising agents

### 1.3 Details of the supplier of the safety data sheet

#### COMPANY IDENTIFICATION

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH  
RHEINGAUSTR. 34  
65201 WIESBADEN  
GERMANY

**Customer Information Number:**

(31) 115 67 2626

SDSQuestion@dow.com

### 1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 00 49 4146 91 2333

**Local Emergency Contact:** 0049 4141 3679

## 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

Serious eye damage - Category 1 - H318

Skin sensitisation - Category 1 - H317

Specific target organ toxicity - repeated exposure - Category 2 - Oral - H373

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: **DANGER**

### Hazard statements

- H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H373 May cause damage to organs (Bladder) through prolonged or repeated exposure if swallowed.

### Precautionary statements

- P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.  
P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER  
+ P338 + and/or doctor.  
P310 Get medical advice/ attention if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

**Contains** Methyltrimethoxysilane; N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine; Bis(trimethoxysilyl)hexane; 3-aminopropyltriethoxysilane; Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane

## 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.

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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**Chemical nature:** Mixture of Methyl Siloxane and Organic Compound  
**3.2 Mixtures**

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
<b>CASRN</b> 1185-55-3 <b>EC-No.</b> 214-685-0 <b>Index-No.</b> -	01-2119517436-40	>= 10,0 - <= 15,0 %	Methyltrimethoxysilane	Flam. Liq. 2; H225 Skin Sens. 1B; H317  Acute toxicity estimate Acute oral toxicity: 11 685 mg/kg Acute inhalation toxicity: > 7605 ppm, 6 Hour, vapour Acute dermal toxicity: > 9 500 mg/kg
<b>CASRN</b> 474530-85-3 <b>EC-No.</b> 610-348-0 <b>Index-No.</b> -	-	>= 10,0 - <= 15,0 %	Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane	Eye Irrit. 2; H319  Acute toxicity estimate Acute dermal toxicity: > 2 000 mg/kg
<b>CASRN</b> 1760-24-3 <b>EC-No.</b> 217-164-6 <b>Index-No.</b> -	01-2119970215-39	>= 4,0 - <= 6,0 %	N-(3-(Trimethoxysilyl)propyl)-1,2-ethanediamine	Acute Tox. 4; H332 Eye Dam. 1; H318 Skin Sens. 1B; H317 STOT RE 2; H373 (Respiratory Tract)  Acute toxicity estimate Acute oral toxicity: 2 295 mg/kg Acute inhalation toxicity: 1,49 - 2,44 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 000 mg/kg
<b>CASRN</b> 87135-01-1 <b>EC-No.</b> 617-969-6 <b>Index-No.</b> -	01-2119420448-41	>= 2,9 - <= 4,2 %	Bis(trimethoxysilyl)hexane	STOT RE 1; H372 (Bladder)  Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute inhalation toxicity: > 0,042 mg/l, 4 Hour,

				vapour
<b>CASRN</b> 919-30-2 <b>EC-No.</b> 213-048-4 <b>Index-No.</b> 612-108-00-0	01-2119480479-24	>= 0,7 - <= 1,1 %	3-aminopropyltriethoxysilane	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317  Acute toxicity estimate Acute oral toxicity: 1 479 mg/kg 2 665 mg/kg Acute inhalation toxicity: > 5 ppm, 6 Hour, vapour > 16 ppm, 6 Hour, vapour > 7,35 mg/l, 4 Hour, Aerosol Acute dermal toxicity: 4 041 mg/kg
<b>CASRN</b> 67-56-1 <b>EC-No.</b> 200-659-6 <b>Index-No.</b> 603-001-00-X	—	<= 0,9 %	methanol	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370 (Eyes, Central nervous system)  specific concentration limit STOT SE 1; H370 >= 10 % STOT SE 2; H371 3 - < 10 %  Acute toxicity estimate Acute oral toxicity: > 5 000 mg/kg 340 mg/kg Acute inhalation toxicity: 3 mg/l, 4 Hour, vapour Acute dermal toxicity: 15 800 mg/kg
<b>CASRN</b> 68928-76-7 <b>EC-No.</b> 273-028-6 <b>Index-No.</b> —	01-2120770324-57	>= 0,05 - <= 0,19 %	Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	Acute Tox. 4; H302 Skin Irrit. 2; H315 Skin Sens. 1A; H317 Aquatic Chronic 3; H412  Acute toxicity estimate Acute oral toxicity: 892 mg/kg Acute dermal toxicity: > 2 000 mg/kg

<p><b>CASRN</b> 556-67-2 <b>EC-No.</b> 209-136-7 <b>Index-No.</b> 014-018-00-1</p>	<p>—</p>	<p>&gt;= 0,023 - &lt;= 0,039 %</p>	<p>octamethylcyclotetrasiloxane [D4]</p>	<p>Flam. Liq. 3; H226 Repr. 2; H361f Aquatic Chronic 1; H410</p> <p>M-Factor (Chronic aquatic toxicity): 10</p> <p>Acute toxicity estimate Acute oral toxicity: &gt; 4 800 mg/kg Acute inhalation toxicity: 36 mg/l, 4 Hour, dust/mist Acute dermal toxicity: &gt; 2 400 mg/kg</p>
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: FIRST AID MEASURES

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### 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. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**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 immediately available.

**Eye contact:** Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** Do NOT induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

### 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:** In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns and/or ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal or esophageal control if lavage is done. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## **SECTION 5: FIREFIGHTING MEASURES**

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### **5.1 Extinguishing media**

**Suitable extinguishing media:** Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). 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 (NO<sub>x</sub>). Formaldehyde.

**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..

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## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**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. 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:** Wipe up or scrape up and contain for salvage or disposal. 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.

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## **SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling:** Do not get on skin or clothing. Do not swallow. Do not get in eyes. Keep container tightly closed. 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 with local exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. Keep tightly closed. 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.

**Storage class according to TRGS 510:** Combustible Solids

**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
Methyltrimethoxysilane	Dow IHG	TWA	7,5 ppm
	Further information: Skin Sensitizer		
N-(3-(Trimethoxysilyl)propyl)-1,2-ethanediamine	Dow IHG		See Further information
	Further information: Skin Sensitizer		
3-aminopropyltriethoxysilane	Dow IHG	TWA	0,5 mg/m3
methanol	ACGIH	TWA	200 ppm
	Further information: Skin: Danger of cutaneous absorption		
	ACGIH	STEL	250 ppm
	Further information: Skin: Danger of cutaneous absorption		
	2006/15/EC	TWA	260 mg/m3 200 ppm
	Further information: Indicative; skin: Identifies the possibility of significant uptake through the skin		
	DE TRGS 900	AGW	130 mg/m3 100 ppm
	Further information: H: Skin absorption; Y: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child		
Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	ACGIH	TWA	0,1 mg/m3 , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	ACGIH	STEL	0,2 mg/m3 , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
octamethylcyclotetrasiloxane [D4]	US WEEL	TWA	10 ppm
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		
	DE TRGS 900	AGW	380 mg/m3 200 ppm
	Further information: Y: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child		

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

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
methanol	67-56-1	Methanol	Urine	In case of long-term exposure: after more than one shift, Immediate	15 mg/l	TRGS 903



			ly after exposure or after working hours		
Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI	

### 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 Sécurité, (INRS), France.

### Derived No Effect Level

Methyltrimethoxysilane

#### Workers

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
0,38 mg/kg bw/day	25,6 mg/m3	n.a.	n.a.	0,38 mg/kg bw/day	25,6 mg/m3	n.a.	n.a.

#### Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation

0,3 mg/kg bw/day	6,25 mg/m3	0,26 mg/kg bw/day	n.a.	n.a.	0,3 mg/kg bw/day	6,25 mg/m3	0,26 mg/kg bw/day	n.a.	n.a.
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Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane  
**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
14,5 mg/kg bw/day	25 mg/m3	n.a.	n.a.	14,5 mg/kg bw/day	25 mg/m3	n.a.	n.a.

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	1 mg/kg bw/day	n.a.	n.a.	n.a.	n.a.	1 mg/kg bw/day	n.a.	n.a.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	5,36 mg/m3	n.a.	n.a.	n.a.	0,6 mg/m3

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	4 mg/m3	n.a.	n.a.	n.a.	n.a.	0,1 mg/m3

Bis(trimethoxysilyl)hexane

**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	0,03 mg/kg bw/day	0,2 mg/m3	n.a.	n.a.

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0,013 mg/kg bw/day	n.a.	n.a.	n.a.

3-aminopropyltriethoxysilane

**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
8,3 mg/kg bw/day	59 mg/m <sup>3</sup>	n.a.	n.a.	8,3 mg/kg bw/day	59 mg/m <sup>3</sup>	n.a.	n.a.

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
5 mg/kg bw/day	17,4 mg/m <sup>3</sup>	5 mg/kg bw/day	n.a.	n.a.	5 mg/kg bw/day	17 mg/m <sup>3</sup>	5 mg/kg bw/day	n.a.	n.a.

methanol

**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
40 mg/kg bw/day	260 mg/m <sup>3</sup>	n.a.	260 mg/m <sup>3</sup>	40 mg/kg bw/day	260 mg/m <sup>3</sup>	n.a.	260 mg/m <sup>3</sup>

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
8 mg/kg bw/day	50 mg/m <sup>3</sup>	8 mg/kg bw/day	n.a.	50 mg/m <sup>3</sup>	8 mg/kg bw/day	50 mg/m <sup>3</sup>	8 mg/kg bw/day	n.a.	50 mg/m <sup>3</sup>

octamethylcyclotetrasiloxane [D4]

**Workers**

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	73 mg/m <sup>3</sup>	n.a.	73 mg/m <sup>3</sup>

**Consumers**

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	13 mg/m <sup>3</sup>	3,7 mg/kg bw/day	n.a.	13 mg/m <sup>3</sup>

**Predicted No Effect Concentration**

Methyltrimethoxysilane

Compartment	PNEC
Fresh water	>= 1,3 mg/l
Marine water	>= 0,13 mg/l

Fresh water sediment	>= 1,1 mg/kg
Marine sediment	>= 0,11 mg/kg
Soil	>= 0,17 mg/kg
Sewage treatment plant	> 6,9 mg/l

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane

Compartment	PNEC
Fresh water	0,13 mg/l
Marine water	0,013 mg/l
Fresh water sediment	0,1 mg/kg
Marine sediment	0,01 mg/kg
Soil	0,016 mg/kg
Sewage treatment plant	>= 100 mg/l

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

Compartment	PNEC
Fresh water	0,062 mg/l
Marine water	0,0062 mg/l
Fresh water sediment	0,22 mg/kg dry weight (d.w.)
Marine sediment	0,022 mg/kg dry weight (d.w.)
Soil	0,0085 mg/kg dry weight (d.w.)
Sewage treatment plant	25 mg/l

Bis(trimethoxysilyl)hexane

Compartment	PNEC
Fresh water	0,074 mg/l
Marine water	0,007 mg/l
Fresh water sediment	0,27 mg/l
Soil	0,01 mg/l
Marine sediment	0,027 mg/l
Sewage treatment plant	74 mg/l

3-aminopropyltriethoxysilane

Compartment	PNEC
Fresh water	0,33 mg/l
Marine water	0,033 mg/l
Fresh water sediment	0,26 mg/kg
Marine sediment	0,026 mg/kg
Soil	0,04 mg/kg
Sewage treatment plant	13 mg/l

methanol

Compartment	PNEC
Fresh water	20,8 mg/l
Marine water	2,08 mg/l
Intermittent use/release	1540 mg/l

Sewage treatment plant	100 mg/l
Fresh water sediment	77 mg/kg
Marine sediment	7,7 mg/kg
Soil	100 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

## 8.2 Exposure controls

**Engineering controls:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

### Individual protection measures

**Eye/face protection:** Use chemical goggles. Chemical goggles 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 alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). 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:** Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

**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.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

**Appearance**

<b>Physical state</b>	paste
<b>Color</b>	black
<b>Odor</b>	alcohol-like
<b>Odor Threshold</b>	No data available
<b>pH</b>	Not applicable, substance/mixture is non-soluble (in water)
<b>Melting point/freezing point</b>	
<b>Melting point/range</b>	No data available
<b>Freezing point</b>	not determined
<b>Boiling point or initial boiling point and boiling range</b>	
<b>Boiling point (760 mmHg)</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Flammability (solid, gas)</b>	Not classified as a flammability hazard
<b>Flammability (liquids)</b>	Not applicable, solid
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Vapor Pressure</b>	Not applicable
<b>Relative Vapor Density (air = 1)</b>	No data available
<b>Relative Density (water = 1)</b>	1,05
<b>Density</b>	1,05 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	
<b>Water solubility</b>	insoluble
<b>Partition coefficient: n-octanol/water</b>	not determined
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Kinematic Viscosity</b>	Not applicable
<b>Particle characteristics</b>	
<b>Particle size</b>	No data available

## 9.2 Other information

<b>Molecular weight</b>	No data available
<b>Dynamic Viscosity</b>	Not applicable
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	The substance or mixture is not classified as oxidizing.
<b>Self-heating substances</b>	The substance or mixture is not classified as self heating.
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Not applicable

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

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## SECTION 10: STABILITY AND REACTIVITY

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**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: Formaldehyde. Methanol. Ethanol.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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*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

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. Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. Contains a component(s) which hydrolyzes to methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

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

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

**Information for components:**

**Methyltrimethoxysilane**

LD50, Rat, male and female, 11 685 mg/kg

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

Single dose oral LD50 has not been determined.

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

LD50, Rat, male and female, 2 295 mg/kg OPPTS 870.1100

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**Bis(trimethoxysilyl)hexane**

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

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**3-aminopropyltriethoxysilane**

LD50, Rat, female, 1 479 mg/kg

LD50, Rat, male, 2 665 mg/kg

**methanol**

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart. Effects may be delayed. LD50, Rat, > 5 000 mg/kg

Lethal Dose, Humans, 340 mg/kg Estimated.



Lethal Dose, Humans, 29 - 237 ml Estimated.

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy(dimethyl)stannane**

LD50, Rat, male and female, 892 mg/kg OECD 401 or equivalent

**octamethylcyclotetrasiloxane [D4]**

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

**Acute dermal toxicity**

**Information for the Product:**

Prolonged skin contact is unlikely to result in absorption of harmful amounts. Contains a component(s) which hydrolyzes to methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

As product: The dermal LD50 has not been determined.

Based on information for component(s):  
LD50, > 2 000 mg/kg Estimated.

**Information for components:**

**Methyltrimethoxysilane**

LD50, Rabbit, male and female, > 9 500 mg/kg OECD 402 or equivalent

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

Based on data from similar materials LD50, Rabbit, > 2 000 mg/kg

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

**Bis(trimethoxysilyl)hexane**

The dermal LD50 has not been determined.

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

**3-aminopropyltriethoxysilane**

Based on product testing: LD50, Rabbit, male and female, 4 041 mg/kg

**methanol**

Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death. LD50, Rabbit, 15 800 mg/kg

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

LD50, Rat, > 2 000 mg/kg

**octamethylcyclotetrasiloxane [D4]**

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

**Acute inhalation toxicity**

**Information for the Product:**

Prolonged excessive exposure may cause adverse effects. Vapor from heated material may cause respiratory irritation. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

As product: The LC50 has not been determined.

**Information for components:**

**Methyltrimethoxysilane**

LC50, Rat, male and female, 6 Hour, vapour, > 7605 ppm OECD Test Guideline 403

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

The LC50 has not been determined.

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

LC50, Rat, 4 Hour, dust/mist, 1,49 - 2,44 mg/l OECD Test Guideline 403

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

**Bis(trimethoxysilyl)hexane**

LC50, Rat, male and female, 4 Hour, vapour, > 0,042 mg/l No deaths occurred at this concentration.

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

**3-aminopropyltriethoxysilane**

Based on product testing: LC50, Rat, male, 6 Hour, vapour, > 5 ppm No deaths occurred at this concentration.

Based on product testing: LC50, Rat, female, 6 Hour, vapour, > 16 ppm No deaths occurred at this concentration.

Based on product testing: LC50, Rat, male and female, 4 Hour, Aerosol, > 7,35 mg/l

**methanol**

Easily attainable vapor concentrations may cause serious adverse effects, even death. At lower concentrations: May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death. Effects may be delayed.

LC50, Rat, 4 Hour, vapour, 3 mg/l

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy(dimethyl)stannane**

As product: The LC50 has not been determined.

**octamethylcyclotetrasiloxane [D4]**

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

**Skin corrosion/irritation**

**Information for the Product:**

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

**Information for components:**

**Methyltrimethoxysilane**

Brief contact may cause slight skin irritation with local redness.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

Brief contact may cause slight skin irritation with local redness.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

Brief contact may cause moderate skin irritation with local redness.

**Bis(trimethoxysilyl)hexane**

Essentially nonirritating to skin.

**3-aminopropyltriethoxysilane**

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

**methanol**

Prolonged contact may cause slight skin irritation with local redness.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

Brief contact may cause skin irritation with local redness.

**octamethylcyclotetrasiloxane [D4]**

Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

**Information for the Product:**

Based on information for component(s):

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

**Information for components:**

**Methyltrimethoxysilane**

May cause slight temporary eye irritation.  
Corneal injury is unlikely.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

May cause moderate eye irritation.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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

**Bis(trimethoxysilyl)hexane**

Essentially nonirritating to eyes.

**3-aminopropyltriethoxysilane**

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

**methanol**

May cause eye irritation.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

May cause slight eye irritation.  
May cause slight temporary corneal injury.

**octamethylcyclotetrasiloxane [D4]**

Essentially nonirritating to eyes.

**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:**

**Methyltrimethoxysilane**

For skin sensitization:

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

For similar material(s):

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

For respiratory sensitization:

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Bis(trimethoxysilyl)hexane**

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

For respiratory sensitization:

No relevant data found.

**3-aminopropyltriethoxysilane**

For skin sensitization:

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**methanol**

For skin sensitization:  
No relevant data found.

For respiratory sensitization:  
No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**  
Has caused 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.

### Specific Target Organ Systemic Toxicity (Single Exposure)

#### Information for the Product:

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

#### Information for components:

**Methyltrimethoxysilane**

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

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

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

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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

**Bis(trimethoxysilyl)hexane**

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

**3-aminopropyltriethoxysilane**

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

**methanol**

Causes damage to organs.

Route of Exposure: Oral

Target Organs: Eyes, Central nervous system

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

**octamethylcyclotetrasiloxane [D4]**

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:

#### Methyltrimethoxysilane

Material is not classified as an aspiration hazard based on insufficient data, however materials with low viscosity may be aspirated into the lungs during ingestion or vomiting.

#### Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane

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

#### N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

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

#### Bis(trimethoxysilyl)hexane

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

#### 3-aminopropyltriethoxysilane

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

#### methanol

May be harmful if swallowed and enters airways.

#### Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane

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

#### octamethylcyclotetrasiloxane [D4]

May be harmful if swallowed and enters airways.

**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:

Central nervous system.

Kidney.

Liver.

Respiratory tract.

Bladder

Contains an additional component(s) that is not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

### Information for components:

**Methyltrimethoxysilane**

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

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

In animals, effects have been reported on the following organs:  
Respiratory tract.

**Bis(trimethoxysilyl)hexane**

In animals, effects have been reported on the following organs:  
Bladder

**3-aminopropyltriethoxysilane**

In animals, effects have been reported on the following organs:  
Liver.

**methanol**

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

In animals, effects have been reported on the following organs:  
Blood  
Kidney  
Liver  
Immune system.

**octamethylcyclotetrasiloxane [D4]**

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

**Carcinogenicity**

**Information for the Product:**

Contains a component(s) that is/are not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

**Information for components:**

**Methyltrimethoxysilane**

No relevant data found.



**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

No relevant data found.

**Bis(trimethoxysilyl)hexane**

No relevant data found.

**3-aminopropyltriethoxysilane**

Did not cause cancer in laboratory animals.

**methanol**

Did not cause cancer in laboratory animals.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**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.

## Teratogenicity

### Information for the Product:

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

### Information for components:

**Methyltrimethoxysilane**

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

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

Did not cause birth defects in laboratory animals.

**Bis(trimethoxysilyl)hexane**

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

**3-aminopropyltriethoxysilane**

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**methanol**

Methanol has caused birth defects in mice at doses nontoxic to the mother as well as slight behavioral effects in offspring of rats.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**octamethylcyclotetrasiloxane [D4]**

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

**Reproductive toxicity**

**Information for the Product:**

Contains component(s) which did not interfere with reproduction in animal studies.

**Information for components:**

**Methyltrimethoxysilane**

In animal studies, did not interfere with reproduction.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

In animal studies, did not interfere with reproduction.

**Bis(trimethoxysilyl)hexane**

In animal studies, did not interfere with fertility.

**3-aminopropyltriethoxysilane**

In animal studies, did not interfere with fertility.

**methanol**

In animal studies, did not interfere with reproduction.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**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.

**Mutagenicity**

**Information for the Product:**

Contains component(s) which were negative in some animal genetic toxicity studies and positive in others. Positive findings were observed only at doses which produced significant inflammation. Contains component(s) which were positive in in vitro genetic toxicity studies.

#### Information for components:

##### **Methyltrimethoxysilane**

In vitro genetic toxicity studies were negative in some cases and positive in other cases.  
Animal genetic toxicity studies were negative.

##### **Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

In vitro genetic toxicity studies were positive.

##### **N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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

##### **Bis(trimethoxysilyl)hexane**

In vitro genetic toxicity studies were negative in some cases and positive in other cases.  
Animal genetic toxicity studies were negative.

##### **3-aminopropyltriethoxysilane**

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

##### **methanol**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative in some cases and positive in other cases.

##### **Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

In vitro genetic toxicity studies were negative in some cases and positive in other cases.  
Animal genetic toxicity studies were negative.

##### **octamethylcyclotetrasiloxane [D4]**

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:

##### **Methyltrimethoxysilane**

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.

##### **Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

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.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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.

**Bis(trimethoxysilyl)hexane**

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.

**3-aminopropyltriethoxysilane**

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.

**methanol**

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.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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.

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## SECTION 12: ECOLOGICAL INFORMATION

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

### 12.1 Toxicity

**Methyltrimethoxysilane**

**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), 96 Hour, > 110 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 122 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

No toxicity at the limit of solubility  
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 3,6 mg/l, OECD Test Guideline 201

No toxicity at the limit of solubility  
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition,  $\geq 3,6$  mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

EC10, activated sludge, 3 Hour, Respiration rates.,  $> 100$  mg/l, OECD Test Guideline 209

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 28 d, number of offspring,  $\geq 10$  mg/l

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

**Acute toxicity to fish**

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

For the hydrolysis product(s)

LC50, zebra fish (Brachydanio rerio), 96 Hour, 597 mg/l

**Acute toxicity to aquatic invertebrates**

For the hydrolysis product(s)

EC50, Daphnia magna (Water flea), 48 Hour, 81 mg/l

**Acute toxicity to algae/aquatic plants**

For the hydrolysis product(s)

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 8,8 mg/l

For the hydrolysis product(s)

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 3,1 mg/l

**Toxicity to bacteria**

For the hydrolysis product(s)

EC50, Pseudomonas putida, 16 Hour, Growth inhibition, 67 mg/l

**Chronic toxicity to aquatic invertebrates**

For the hydrolysis product(s)

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring,  $> 1$  mg/l

**Toxicity to Above Ground Organisms**

Material is moderately toxic to birds on an acute basis (LD50 between 51 and 500 mg/kg).

**Toxicity to soil-dwelling organisms**

NOEC, Eisenia fetida (earthworms), 14 d,  $\geq 1\ 000$  mg/kg

**Bis(trimethoxysilyl)hexane**

**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), 96 Hour,  $> 100$  mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Selenastrum capricornutum (green algae), 72 Hour, > 100 mg/l

**3-aminopropyltriethoxysilane**

**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, Danio rerio (zebra fish), semi-static test, 96 Hour, > 934 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, 331 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, > 1 000 mg/l

NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,3 mg/l

**Toxicity to bacteria**

EC50, Pseudomonas putida, 5,75 Hour, Respiration rates., 43 mg/l

**methanol**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Bluegill sunfish (Lepomis macrochirus), flow-through test, 96 Hour, 15 400 mg/l

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), 48 Hour, > 10 000 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, 22 000 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

IC50, activated sludge, 3 Hour, Respiration rates., > 1 000 mg/l, OECD Test Guideline 209

**Chronic toxicity to fish**

NOEC, Oryzias latipes (Orange-red killifish), 200 Hour, 15 800 mg/l

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Acute toxicity to fish**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

For similar material(s):

LC50, Zebra fish (Danio/Brachydanio rerio), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna, static test, 48 Hour, 39 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 7,6 mg/l, OECD Test Guideline 201 or Equivalent

For similar material(s):

NOEC, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 1,1 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

For similar material(s):

EC50, Bacteria, 3 Hour, Respiration rates., 14 mg/l

**octamethylcyclotetrasiloxane [D4]**

**Acute toxicity to fish**

Based on testing of comparable products: The estimated maximum aqueous concentration of Octamethyl Cyclotetrasiloxane (D4) from migration to water from the product as supplied is below the D4 established no-effect threshold (< 0.0079 mg/L) for aquatic organisms.

**Chronic toxicity to aquatic invertebrates**

Based on testing for product(s) in this family of materials:

Not classified due to data which are conclusive although insufficient for classification.

**12.2 Persistence and degradability**

**Methyltrimethoxysilane**

**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.

**Biodegradation:** 54 %

**Exposure time:** 28 d

**Method:** Regulation (EC) No. 440/2008, Annex, C.4-A

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

**Biodegradability:** 10-day Window: Fail

**Biodegradation:** 41,3 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

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.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

**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:** 39 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301A or Equivalent

**Bis(trimethoxysilyl)hexane**

**Biodegradability:** Material is expected to be readily biodegradable.  
10-day Window: Fail  
**Biodegradation:** 74 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301B

**Stability in Water (1/2-life)**  
Hydrolyses readily., Hydrolysis, DT50, 5,2 Hour, pH 7

**3-aminopropyltriethoxysilane**

**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:** 67 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301A or Equivalent

**Stability in Water (1/2-life)**  
Hydrolysis, half-life, 8,5 Hour, pH 7, Half-life Temperature 24,7 °C

**methanol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Biodegradability:** For similar material(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.  
For similar material(s): 10-day Window: Fail  
**Biodegradation:** 3 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301F or Equivalent

**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

**12.3 Bioaccumulative potential**

**Methyltrimethoxysilane**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).



Partition coefficient: n-octanol/water(log Pow): -0,82 Estimated.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

Bioaccumulation: No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): < 3 estimated

**Bis(trimethoxysilyl)hexane**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1,7 Estimated by Structure-Activity Relationship (SAR).

**3-aminopropyltriethoxysilane**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1,7 at 20 °C Calculated.

Bioconcentration factor (BCF): 3,4 Cyprinus carpio (Carp) 56 d

**methanol**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0,77 Measured

Bioconcentration factor (BCF): < 10 Leuciscus idus (Golden orfe) Measured

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

Bioaccumulation: No relevant data found.

**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

**12.4 Mobility in soil**

**Methyltrimethoxysilane**

No relevant data found.

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

No relevant data found.

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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): > 5000 Estimated.

**Bis(trimethoxysilyl)hexane**

No relevant data found.

**3-aminopropyltriethoxysilane**

No relevant data found.

**methanol**

Partition coefficient (Koc): 0,44 Estimated.

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy(dimethyl)stannane**

No relevant data found.

**octamethylcyclotetrasiloxane [D4]**

Partition coefficient (Koc): 16596 OECD Test Guideline 106

**12.5 Results of PBT and vPvB assessment**

**Methyltrimethoxysilane**

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).

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

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

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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).

**Bis(trimethoxysilyl)hexane**

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).

**3-aminopropyltriethoxysilane**

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).

**methanol**

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).

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy(dimethyl)stannane**

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

**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).

## **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.

### **Methyltrimethoxysilane**

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.

### **Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

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.

### **N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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.

### **Bis(trimethoxysilyl)hexane**

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.

### **3-aminopropyltriethoxysilane**

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.

### **methanol**

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.

### **Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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.

## **12.7 Other adverse effects**

### **Methyltrimethoxysilane**

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

**Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane**

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

**N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine**

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

**Bis(trimethoxysilyl)hexane**

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

**3-aminopropyltriethoxysilane**

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

**methanol**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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.

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## **SECTION 13: DISPOSAL CONSIDERATIONS**

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### **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.

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## **SECTION 14: TRANSPORT INFORMATION**

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

- |  |   |
|--|---|
| <b>14.1 UN number or ID number</b>       | Not applicable  |
| <b>14.2 UN proper shipping name</b>      | Not regulated for transport                                       |
| <b>14.3 Transport hazard class(es)</b>   | Not applicable  |
| <b>14.4 Packing group</b>                | Not applicable  |
| <b>14.5 Environmental hazards</b>        | Not considered environmentally hazardous based on available data. |
| <b>14.6 Special precautions for user</b> | No data available.  |

### **Classification for INLAND waterways (ADNR/ADN):**

**Consult your Dow contact before transporting by inland waterway**

**Classification for SEA transport (IMO-IMDG):**

- 14.1 UN number or ID number Not applicable
- 14.2 UN proper shipping name Not regulated for transport
- 14.3 Transport hazard class(es) Not applicable
- 14.4 Packing group Not applicable
- 14.5 Environmental hazards Not considered as marine pollutant based on available data.
- 14.6 Special precautions for user No data available.
- 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 Not applicable
- 14.2 UN proper shipping name Not regulated for transport
- 14.3 Transport hazard class(es) Not applicable
- 14.4 Packing group Not applicable
- 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.

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## **SECTION 15: REGULATORY INFORMATION**

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### **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:  
methanol (Number on list 69)  
Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane (Number on list 20)  
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]
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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: Not applicable

**Wassergefährdungsklasse (Deutschland)**

WGK 1: slightly hazardous to water

**Further information**

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**

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

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**SECTION 16: OTHER INFORMATION**

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**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.
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.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H361f	Suspected of damaging fertility.

H370	Causes damage to organs if swallowed.
H372	Causes damage to organs through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H410	Very 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  
 Eye Dam. - 1 - H318 - Calculation method  
 Skin Sens. - 1 - H317 - Calculation method  
 STOT RE - 2 - H373 - Calculation method

**Revision**

Identification Number: 99161030 / A287 / Issue Date: 24.12.2021 / Version: 4.0  
 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

2006/15/EC	Europe. Indicative occupational exposure limit values
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
AGW	Time Weighted Average
DE TRGS 900	Germany. TRGS 900 - Occupational exposure limit values.
Dow IHG	Dow Industrial Hygiene Guideline
STEL	Short-term exposure limit
TRGS 903	TRGS 903 - Biological limit values
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)
Acute Tox.	Acute toxicity
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
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

**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.

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