

# Sicherheitsdatenblatt



Produkt: EA-9189

Hersteller: DOWSIL

Warengruppe: KLEBSTOFF

Artikelgruppe: 1-K SILIKON

Download: 20.04.2024

**DOWSIL EA-9189 RTV WHITE**

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# SAFETY DATA SHEET

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH

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

**Product name:** DOWSIL™ EA-9189 RTV White

**Revision Date:** 23.07.2021

**Version:** 2.0

**Date of last issue:** 20.12.2018

**Print Date:** 24.07.2021

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™ EA-9189 RTV White

**UFI:** QYRD-V0RD-5004-FFN4

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

**Identified uses:** Flame retardants Adhesive, binding agents

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

#### **COMPANY IDENTIFICATION**

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH  
RHEINGAISTR. 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 sensitisation - Category 1 - H317

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**

H317 May cause an allergic skin reaction.

**Precautionary statements**

P261 Avoid breathing dust, fume, gas, mist, vapours and/or spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P501 Dispose of contents and/or container to an approved waste disposal plant.

**Supplemental information**

EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

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

**2.3 Other hazards**

This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.

**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:** Silicone, Sealant

**3.2 Mixtures**

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
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<b>CASRN</b> 14808-60-7 <b>EC-No.</b> 238-878-4 <b>Index-No.</b> —	—	>= 30,0 - <= 50,0 %	Quartz	STOT RE 1; H372 (Lungs)
<b>CASRN</b> 12122-17-7 <b>EC-No.</b> 235-179-6 <b>Index-No.</b> —	—	>= 2,0 - <= 10,0 %	Hydrozincite	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: > 5 410 mg/m <sup>3</sup> , 4 Hour, dust/mist
<b>CASRN</b> 1185-55-3 <b>EC-No.</b> 214-685-0 <b>Index-No.</b> —	01-2119517436-40	>= 0,57 - <= 4,45 %	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> 13463-67-7 <b>EC-No.</b> 236-675-5 <b>Index-No.</b> —	01-2119489379-17	>= 1,63 - <= 3,56 %	titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	Carc. 2; H351  Acute toxicity estimate Acute oral toxicity: > 10 000 mg/kg Acute inhalation toxicity: > 6,82 mg/l, 4 Hour, dust/mist Acute dermal toxicity: 10 000 mg/kg
<b>CASRN</b> 27858-32-8 <b>EC-No.</b> 248-697-2 <b>Index-No.</b> —	—	>= 0,35 - <= 1,85 %	Diisopropoxydi(ethoxyacetoacetyl)titana te	Flam. Liq. 3; H226 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system)  Acute toxicity estimate Acute oral toxicity: 23 020 mg/kg Acute inhalation toxicity:

				> 198,65 mg/l, 4 Hour, vapour Acute dermal toxicity: 12 870 mg/kg
<b>CASRN</b> 1760-24-3 <b>EC-No.</b> 217-164-6 <b>Index-No.</b> —	01-2119970215-39	>= 0,08 - <= 0,35 %	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> 67-56-1 <b>EC-No.</b> 200-659-6 <b>Index-No.</b> 603-001-00-X	—	>= 0,01 - <= 0,11 %	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

## Substances with a workplace exposure limit

<b>CASRN</b> 68909-20-6 <b>EC-No.</b> 272-697-1 <b>Index-No.</b> —	—	>= 1,9 - <= 3,1 %	Hydrophobic amorphous fumed silica	Not classified  Acute toxicity estimate Acute oral toxicity: > 5 000 mg/kg Acute dermal toxicity: > 2 000 mg/kg
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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; 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. Skin contact may aggravate preexisting dermatitis.

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## SECTION 5: FIREFIGHTING MEASURES

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### 5.1 Extinguishing media

**Suitable extinguishing media:** Water spray. Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.

**Unsuitable extinguishing media:** None known..

### 5.2 Special hazards arising from the substance or mixture

**Hazardous combustion products:** Silicon oxides. Carbon oxides. Metal 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..

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:** Discharge into the environment must be avoided. 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. 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 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		
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		
Hydrophobic amorphous fumed silica	Dow IHG	TWA Respirable fraction	0,1 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		
Isopropanol	ACGIH	TWA	200 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	ACGIH	STEL	400 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	DE TRGS 900	AGW	500 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.

Isopropanol

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

**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, Immediately after exposure or after working hours	15 mg/l	TRGS 903
		Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI
Isopropanol	67-63-0	Acetone	Blood	Immediately after exposure or after working hours	25 mg/l	TRGS 903
		Acetone	Urine	Immediately after exposure or after working hours	25 mg/l	TRGS 903
		Acetone	Urine	End of shift at end of workweek	40 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

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
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

Acute systemic effects			Acute local effects		Long-term systemic effects			Long-term local effects	
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.

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

#### 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.	n.a.	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.	n.a.	700 mg/kg bw/day	n.a.	n.a.

Diisopropoxydi(ethoxyacetoacetyl)titanate

#### 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.	500 mg/m3	n.a.	n.a.
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**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.	n.a.	n.a.	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

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/m3	n.a.	260 mg/m3	40 mg/kg bw/day	260 mg/m3	n.a.	260 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
8 mg/kg bw/day	50 mg/m3	8 mg/kg bw/day	n.a.	50 mg/m3	8 mg/kg bw/day	50 mg/m3	8 mg/kg bw/day	n.a.	50 mg/m3

**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

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Compartment	PNEC
Fresh water	0,184 mg/l
Marine water	0,0184 mg/l
Intermittent use/release	0,193 mg/l
Sewage treatment plant	100 mg/l
Fresh water sediment	1000 mg/kg
Marine sediment	100 mg/kg
Soil	100 mg/kg

## Diisopropoxydi(ethoxyacetoacetyl)titanate

Compartment	PNEC
Fresh water	0,1 mg/l
Marine water	0,01 mg/l
Intermittent use/release	1,0 mg/l
Fresh water sediment	0,082 mg/kg
Marine sediment	0,0082 mg/kg
Soil	0,019 mg/kg

## 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

## 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

**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 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:** 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, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline 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**

Physical state	paste
Color	white
Odor	slight alcoholic
Odor Threshold	No data available
pH	Not applicable, substance/mixture is non-soluble (in water)
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)	Not applicable
Flash point	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Flammability (liquids)	Not applicable, solid
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1,71
Solubility(ies)	
Water solubility	insoluble
Partition coefficient: n-octanol/water	not determined
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	Not applicable
Particle characteristics	
Particle size	No data available

**9.2 Other information**

Molecular weight	No data available
Dynamic Viscosity	Not applicable
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.

Evaporation Rate (Butyl Acetate = 1)	Not applicable
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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. Isopropanol.

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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**

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:**

##### **Quartz**

Single dose oral LD50 has not been determined.

##### **Hydrozincite**

Based on data from similar materials LD50, Rat, > 5 000 mg/kg

##### **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.

##### **titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]**

LD50, Rat, > 10 000 mg/kg

##### **Diisopropoxydi(ethoxyacetoacetyl)titanate**

LD50, Rat, male, 23 020 mg/kg OECD 401 or equivalent

##### **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.

**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.

**Hydrophobic amorphous fumed silica**

Single dose oral LD50 has not been determined.

Based on information for a similar material: LC50, Rat, > 5 000 mg/kg

**Acute dermal toxicity**

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, > 2 000 mg/kg Estimated.

**Information for components:****Quartz**

The dermal LD50 has not been determined.

**Hydrozincite**

The dermal LD50 has not been determined.

**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.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]**

LD50, Rabbit, 10 000 mg/kg

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s): LD50, Rabbit, 12 870 mg/kg

**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.

**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

**Hydrophobic amorphous fumed silica**

For similar material(s): LD50, Rabbit, > 2 000 mg/kg No deaths occurred at this concentration.

The dermal LD50 has not been determined.

**Acute inhalation toxicity**

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

As product: The LC50 has not been determined.

**Information for components:****Quartz**

The LC50 has not been determined.

**Hydrozincite**

Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 5 410 mg/m<sup>3</sup> OECD Test Guideline 403

**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.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]**

LC50, Rat, male, 4 Hour, dust/mist, > 6,82 mg/l No deaths occurred at this concentration.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s): LC50, Rat, male and female, 4 Hour, vapour, > 198,65 mg/l No deaths occurred at this concentration.

**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.

**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

**Hydrophobic amorphous fumed silica**

The LC50 has not been determined.

**Skin corrosion/irritation**

Based on information for component(s):

Brief contact may cause slight skin irritation with local redness.

May cause drying and flaking of the skin.

**Information for components:**

**Quartz**

May cause skin irritation due to mechanical abrasion.

May cause drying and flaking of the skin.

**Hydrozincite**

For similar material(s):

Brief contact may cause slight skin irritation with local redness.

**Methyltrimethoxysilane**

Brief contact may cause slight skin irritation with local redness.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

Essentially nonirritating to skin.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

Brief contact is essentially nonirritating to skin.

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

Brief contact may cause moderate skin irritation with local redness.

**methanol**

Prolonged contact may cause slight skin irritation with local redness.

**Hydrophobic amorphous fumed silica**

For similar material(s):

Prolonged contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Based on information for component(s):

May cause slight eye irritation.

May cause mild eye discomfort.

**Information for components:**

**Quartz**

Solid or dust may cause irritation or corneal injury due to mechanical action.

**Hydrozincite**

For similar material(s):

May cause slight eye irritation.

**Methyltrimethoxysilane**

May cause slight temporary eye irritation.

Corneal injury is unlikely.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

Solid or dust may cause irritation due to mechanical action.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

May cause moderate eye irritation.

May cause corneal injury.

**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.

**methanol**

May cause eye irritation.

**Hydrophobic amorphous fumed silica**

For similar material(s):

May cause irritation or corneal injury due to mechanical action.

**Sensitization**

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:**

**Quartz**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**Hydrozincite**

For similar material(s):

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

For respiratory sensitization:

No relevant data found.

**Methyltrimethoxysilane**

For skin sensitization:

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

Did not demonstrate the potential for contact allergy in mice.

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

For respiratory sensitization:

No relevant data found.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s):

Did not demonstrate the potential for contact allergy in mice.

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.

**methanol**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**Hydrophobic amorphous fumed silica**

For similar material(s):

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)**

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

**Information for components:**

**Quartz**

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

**Hydrozincite**

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

**Methyltrimethoxysilane**

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

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

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

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

May cause drowsiness or dizziness.

Route of Exposure: Inhalation

Target Organs: Central nervous system

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

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

**methanol**

Causes damage to organs.

Route of Exposure: Oral

Target Organs: Eyes, Central nervous system

**Hydrophobic amorphous fumed silica**

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

**Aspiration Hazard**

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

**Information for components:****Quartz**

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

**Hydrozincite**

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

**Methyltrimethoxysilane**

May be harmful if swallowed and enters airways.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

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

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

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

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

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

**methanol**

May be harmful if swallowed and enters airways.

**Hydrophobic amorphous fumed silica**

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)**

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:**

**Quartz**

In humans, effects have been reported on the following organs:

Kidney.

Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Hydrozincite**

For similar material(s):

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

**Methyltrimethoxysilane**

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

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

Repeated excessive inhalation exposures to dusts may cause respiratory effects.

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

Lung.

Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s):

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

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

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

Respiratory tract.

**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.

**Hydrophobic amorphous fumed silica**

No relevant data found.

**Carcinogenicity**

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:****Quartz**

Has caused cancer in humans. Has caused cancer in laboratory animals. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Hydrozincite**

No relevant data found.

**Methyltrimethoxysilane**

No relevant data found.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titaniumdioxide was not carcinogenic in laboratory animals in lifetime feeding studies. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

No relevant data found.

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

No relevant data found.

**methanol**

Did not cause cancer in laboratory animals.

**Hydrophobic amorphous fumed silica**

No relevant data found.

**Teratogenicity**

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

**Information for components:****Quartz**

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

**Hydrozincite**

No relevant data found.

**Methyltrimethoxysilane**

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

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

No relevant data found.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

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

Did not cause birth defects in laboratory animals.

**methanol**

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

**Hydrophobic amorphous fumed silica**

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

**Reproductive toxicity**

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

**Information for components:****Quartz**

No relevant data found.

**Hydrozincite**

No relevant data found.

**Methyltrimethoxysilane**

In animal studies, did not interfere with reproduction.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

No relevant data found.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

No relevant data found.

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

In animal studies, did not interfere with reproduction.

**methanol**

In animal studies, did not interfere with reproduction.

**Hydrophobic amorphous fumed silica**

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

**Mutagenicity**

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Contains component(s) which were negative in animal genetic toxicity studies.

**Information for components:****Quartz**

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

**Hydrozincite**

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

**Methyltrimethoxysilane**

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

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

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

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

In vitro genetic toxicity studies were negative.

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

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.

**Hydrophobic amorphous fumed silica**

For similar material(s): In vitro 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:****Quartz**

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.

**Hydrozincite**

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.

**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.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

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.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

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.

**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.

**Hydrophobic amorphous fumed silica**

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

#### **Quartz**

##### **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).

#### **Hydrozincite**

##### **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, Oncorhynchus kisutch (coho salmon), 96 Hour, 727 - 1 810 mg/l

##### **Acute toxicity to aquatic invertebrates**

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, 6,9 - 16,2 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

Based on data from similar materials

EC50, Selenastrum capricornutum (green algae), 72 Hour, 136 µg/l, OECD Test Guideline 201

Based on data from similar materials

NOEC, Selenastrum capricornutum (green algae), 72 Hour, 24 µg/l, OECD Test Guideline 201

**Chronic toxicity to fish**

Based on data from similar materials

NOEC, Oncorhynchus mykiss (rainbow trout), 30 d, 199 µg/l

**Chronic toxicity to aquatic invertebrates**

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, 37 µg/l

**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**

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 3,6 mg/l, OECD Test Guideline 201

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, >= 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, >= 10 mg/l

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]****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).

NOEC mortality, Leuciscus idus (Golden orfe), static test, 48 Hour, > 1 000 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1 000 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

EC50, 3 Hour, > 1 000 mg/l, OECD Test Guideline 209

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

**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, Rasbora heteromorpha (Harlequin fish), static test, 96 Hour, 4 200 mg/l

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, > 100 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 100 mg/l, OECD Test Guideline 201 or Equivalent

**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, >= 1 000 mg/kg

**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

**Hydrophobic amorphous fumed silica****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), 96 Hour, > 1 000 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, *Scenedesmus quadricauda* (Green algae), 72 Hour, > 10 000 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

EC50, > 1 000 mg/l, OECD Test Guideline 209

**12.2 Persistence and degradability****Quartz**

**Biodegradability:** Biodegradation is not applicable.

**Hydrozincite**

**Biodegradability:** Biodegradability is not applicable to inorganic substances. Rapid removal from the water column is considered equivalent to rapid degradation.

**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

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

**Biodegradability:** Biodegradation is not applicable.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

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

10-day Window: Pass

**Biodegradation:** 66 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D

**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

**methanol**

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

**Hydrophobic amorphous fumed silica**

**Biodegradability:** Biodegradation is not applicable.

## 12.3 Bioaccumulative potential

**Quartz**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Hydrozincite**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Methyltrimethoxysilane**

**Bioaccumulation:** Bioconcentration potential is low ( $\text{BCF} < 100$  or  $\text{Log Pow} < 3$ ).

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

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

**Bioaccumulation:** For similar material(s): Bioconcentration potential is low ( $\text{BCF} < 100$  or  $\text{Log Pow} < 3$ ).

**Partition coefficient: n-octanol/water(log Pow):** 0,05

**Bioconcentration factor (BCF):** 3 Fish Estimated.

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

**Bioaccumulation:** Bioconcentration potential is low ( $\text{BCF} < 100$  or  $\text{Log Pow} < 3$ ).

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

**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

**Hydrophobic amorphous fumed silica**

**Bioaccumulation:** No relevant data found.

**12.4 Mobility in soil**

**Quartz**

No relevant data found.

**Hydrozincite**

No relevant data found.

**Methyltrimethoxysilane**

No relevant data found.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s):

**Partition coefficient (Koc):** 1,53 Estimated.

**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.

**methanol**

**Partition coefficient (Koc):** 0,44 Estimated.

**Hydrophobic amorphous fumed silica**

No relevant data found.

**12.5 Results of PBT and vPvB assessment**

**Quartz**

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

**Hydrozincite**

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

**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).

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu m$ ]**

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

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

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).

**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).

**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).

**Hydrophobic amorphous fumed silica**

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.

**Quartz**

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.

**Hydrozincite**

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.

**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.

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

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.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

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.

**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.

**Hydrophobic amorphous fumed silica**

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****Quartz**

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

**Hydrozincite**

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

**Methyltrimethoxysilane**

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

**titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]**

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

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

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.

**methanol**

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

**Hydrophobic amorphous fumed silica**

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):**

**14.1 UN number or ID number** 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):**

- |                                                                     |                                                             |
|---------------------------------------------------------------------|-------------------------------------------------------------|
| <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 as marine pollutant based on available data. |
| <b>14.6 Special precautions for user</b>                            | No data available.                                          |
| <b>14.7 Maritime transport in bulk according to IMO instruments</b> | Consult IMO regulations before transporting ocean bulk      |

**Classification for AIR transport (IATA/ICAO):**

- |                                          |                             |
|------------------------------------------|-----------------------------|
| <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 applicable              |
| <b>14.6 Special precautions for user</b> | 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). 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)

#### 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 not yet classified

#### 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.
H311	Toxic in contact with skin.
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.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer if inhaled.
H370	Causes damage to organs if swallowed.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.

H400 Very toxic to aquatic life.  
H411 Toxic 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 Sens. - 1 - H317 - Calculation method

### Revision

Identification Number: 4076550 / A287 / Issue Date: 23.07.2021 / Version: 2.0

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
Acute Tox.	Acute toxicity
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Carc.	Carcinogenicity
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
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; 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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