DOW CORNING

DOW CORNING(R) 993 STRUCTURAL GLAZING CATALYST MIDDLE GREY

Version	Revision Date:	MSDS Number:	Date of last issue: -
1.0	09.02.2015	1295924-00001	Date of first issue: 09.02.2015

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

1.1 Product identifier

Trade name : DOW CORNING(R) 993 STRUCTURAL GLAZING CATALYST MIDDLE GREY

Product code : 000000000004102818

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

Use of the Substance/Mixture : Vulcanising agents

1.3 Details of the supplier of the safety data sheet

Company : Dow Corning Europe S.A.
rue Jules Bordet - Parc Industriel - Zone C
B-7180 Seneffe

Telephone : English Tel: +49 611237507
Deutsch Tel: +49 611237500
Français Tel: +32 64511149
Italiano Tel: +32 64511170
Español Tel: +32 64511163

E-mail address of person responsible for the SDS : sdseu@dowcorning.com

1.4 Emergency telephone number

Dow Corning (Barry U.K. 24h) Tél: +44 1446732350
Dow Corning (Wiesbaden 24h) Tél: +49 61122158
Dow Corning (Seneffe 24h) Tel: +32 64 888240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

Classification (67/548/EEC, 1999/45/EC)

Flammable	R10: Flammable.
Harmful	R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.
Sensitising	R43: May cause sensitisation by skin contact.
Irritant	R36: Irritating to eyes.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements	:		
		H226	Flammable liquid and vapour.
		H317	May cause an allergic skin reaction.
		H319	Causes serious eye irritation.
		H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements	:		
		Prevention:	
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P233	Keep container tightly closed.
		P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
		Response:	
		P314	Get medical advice/ attention if you feel unwell.
		P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
		P337 + P313	If eye irritation persists: Get medical advice/ attention.

Hazardous components which must be listed on the label:
Methyltrimethoxysilane

1,6-Bis(trimethoxysilyl)hexane

N-(3-(Trimethoxysilyl)propyl)ethylenediamine

3-Aminopropyltriethoxysilane

N, N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine

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

Oligomers of aminoalkylmethoxysilanes

Additional Labelling:

EUH205 Contains epoxy constituents. May produce an allergic reaction.

2.3 Other hazards

Static-accumulating flammable liquid.
Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Sealant

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane	474530-85-3	Xi; R36	Eye Irrit. 2; H319	>= 10 - < 20
Methyltrimethoxysilane	1185-55-3 214-685-0 01-2119517436-40	F; R11 R43	Flam. Liq. 2; H225 Skin Sens. 1B; H317	>= 10 - < 20
1,6-Bis(trimethoxysilyl)hexane	87135-01-1	T; R48/25	STOT RE 1; H372	>= 1 - < 10
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3 217-164-6 01-2119970215-39	Xn; R20 R43 Xi; R41 N; R51/53	Acute Tox. 4; H332 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 1 - < 2.5
3-Aminopropyltriethoxysilane	919-30-2 213-048-4 01-2119480479-24	C; R34 Xn; R22 R43	Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317	>= 0.1 - < 1
Methanol	67-56-1 200-659-6 01-	F; R11 T; R23/24/25-R39/23/24/25	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331	>= 0.1 - < 1

	2119433307-44		Acute Tox. 3; H311 STOT SE 1; H370	
N, N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine	68845-16-9 272-453-4	R43 Xi; R38-R41	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 0.1 - < 1
N, N-Bis(3-(Trimethox-ysilyl)propyl)-1,2-ethanediamine	74956-86-8	R43 Xi; R38-R41	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 0.1 - < 1
Oligomers of aminoal-kylmethoxysilanes	Not Assigned	R43 Xi; R41 N; R51/53	Eye Dam. 1; H318 Skin Sens. 1; H317	>= 0.1 - < 1
Dimethylbis[(1-oxoneode-cyl)oxy]stannane	68928-76-7 273-028-6	T; R48/25 Xn; R22 Repr.Cat.3; R63 R53	Acute Tox. 4; H302 Repr. 2; H361d STOT RE 1; H372 Aquatic Chronic 4; H413	>= 0.1 - < 0.25

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : May cause an allergic skin reaction.
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Silicon oxides
Formaldehyde
Nitrogen oxides (NOx)
Chlorine compounds

5.3 Advice for firefighters

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
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.
Clean up remaining materials from spill with suitable absorbent.
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.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Ensure all equipment is electrically grounded before beginning transfer operations.
This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before beginning transfer operations.

Restrict flow velocity in order to reduce the accumulation of static electricity.

Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Avoid inhalation of vapour or mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

7.3 Specific end use(s)

Specific use(s) : These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.
For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materi-

als in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Methyltrimethox-ysilane	1185-55-3	TWA	50 ppm	DCC OEL
Methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	200 ppm 266 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	250 ppm 333 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Dimethylbis[(1-oxoneode-cyl)oxy]stannane	68928-76-7	TWA	0.1 mg/m3 (Tin)	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	0.2 mg/m3 (Tin)	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethanol	64-17-5	TWA	1,000 ppm 1,920 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
Methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	200 ppm 266 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	250 ppm 333 mg/m3	GB EH40

Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

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

Aminopropyltriethoxysilane Rxn with Glycidoxypropyl-trimethoxysilane and Methyl-trimethoxysilane :
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 25 mg/m3
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 25 mg/m3
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 14.5 mg/kg bw/day
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects
Value: 14.5 mg/kg bw/day
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 1 mg/kg bw/day
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Acute systemic effects
Value: 1 mg/kg bw/day

Methyltrimethoxysilane :
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects
Value: 0.38 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 25.6 mg/m3
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 0.38 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 25.6 mg/m3
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects
Value: 0.3 mg/kg bw/day
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 6.25 mg/m3
End Use: Consumers

		Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 0.26 mg/kg bw/day End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 0.3 mg/kg bw/day End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 6.25 mg/m3 End Use: Consumers Exposure routes: Ingestion Potential health effects: Acute systemic effects Value: 0.26 mg/kg bw/day
N-(3-(Trimethox-ysilyl)propyl)ethylenediamine	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 35.3 mg/m3 End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 5 mg/kg bw/day End Use: Workers Exposure routes: Skin contact Potential health effects: Acute systemic effects Value: 5 mg/kg bw/day End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 8.7 mg/m3 End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 2.5 mg/kg bw/day End Use: Consumers Exposure routes: Skin contact Potential health effects: Acute systemic effects Value: 17 mg/kg bw/day End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 2.5 mg/kg bw/day
3-Aminopropyltriethoxysilane	:	End Use: Workers Exposure routes: Skin contact Potential health effects: Acute systemic effects Value: 8.3 mg/kg bw/day End Use: Workers Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 59 mg/m3 End Use: Workers Exposure routes: Skin contact

		Potential health effects: Long-term systemic effects Value: 8.3 mg/kg bw/day End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 59 mg/m3 End Use: Consumers Exposure routes: Ingestion Potential health effects: Acute systemic effects Value: 5 mg/kg bw/day End Use: Consumers Exposure routes: Skin contact Potential health effects: Acute systemic effects Value: 5 mg/kg bw/day End Use: Consumers Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 17.4 mg/m3 End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 5 mg/kg bw/day End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 5 mg/kg bw/day End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 17 mg/m3
Methanol	:	End Use: Workers Exposure routes: Skin contact Potential health effects: Acute systemic effects Value: 40 mg/kg bw/day End Use: Workers Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 260 mg/m3 End Use: Workers Exposure routes: Inhalation Potential health effects: Acute local effects Value: 260 mg/m3 End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 40 mg/kg bw/day End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 260 mg/m3 End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects

Value: 260 mg/m3
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects
Value: 8 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 50 mg/m3
End Use: Workers
Exposure routes: Ingestion
Potential health effects: Acute systemic effects
Value: 8 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 50 mg/m3
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 8 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 50 mg/m3
End Use: Workers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 8 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 50 mg/m3

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

Aminopropyltriethoxysilane Rxn with Glycidoxypropyl-trimethoxysilane and Methyl-trimethoxysilane	:	Fresh water Value: 0.13 mg/l Marine water Value: 0.013 mg/l Fresh water sediment Value: 0.1 mg/kg Marine sediment Value: 0.01 mg/kg Soil Value: 0.016 mg/kg Sewage treatment plant Value: >= 100 mg/l
Methyltrimethoxysilane	:	Fresh water Value: >= 1.3 mg/l Marine water Value: >= 0.13 mg/l

		Fresh water sediment Value: >= 1.1 mg/kg Marine sediment Value: >= 0.11 mg/kg Soil Value: >= 0.17 mg/kg Sewage treatment plant Value: > 6.9 mg/l
N-(3-(Trimethox-ysilyl)propyl)ethylenediamine	:	Fresh water Value: 0.062 mg/l Marine water Value: 0.0062 mg/l Fresh water sediment Value: 0.048 mg/kg Marine sediment Value: 0.0048 mg/kg Soil Value: 0.0075 mg/kg Sewage treatment plant Value: 25 mg/l
3-Aminopropyltriethoxysilane	:	Fresh water Value: 0.33 mg/l Marine water Value: 0.033 mg/l Fresh water sediment Value: 0.26 mg/kg Marine sediment Value: 0.026 mg/kg Soil Value: 0.04 mg/kg Sewage treatment plant Value: 13 mg/l
Methanol	:	Fresh water Value: 154 mg/l Marine water Value: 15.4 mg/l Intermittent use/release Value: 1540 mg/l Sewage treatment plant Value: 100 mg/l Fresh water sediment Value: 570.4 mg/kg Soil Value: 23.5 mg/kg

8.2 Exposure controls

Engineering measures

Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

Personal protective equipment

Eye protection	:	Wear the following personal protective equipment: Safety goggles
Hand protection		
Material	:	Antistatic gloves Impervious gloves Flame retardant gloves
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	viscous liquid
Colour	:	grey
Odour	:	slight
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> 65 °C

Flash point	:	27 °C Method: Tag closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	0.99
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	40,000 mPa.s
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Flammable liquid and vapour. Vapours may form explosive mixture with air. Use at elevated temperatures may form highly hazardous

compounds.
Can react with strong oxidizing agents.
Hazardous decomposition products will be formed upon contact with water or humid air.
Hazardous decomposition products will be formed at elevated temperatures.

10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture
Handling operations that can promote accumulation of static charges.
Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents
Water

10.6 Hazardous decomposition products

Contact with water or humid air : Ethanol
Methanol

Thermal decomposition : Formaldehyde

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane:

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Methyltrimethoxysilane:

Acute oral toxicity : LD50 (Rat): 12.3 ml/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Information taken from reference works and the literature.

Acute inhalation toxicity : LC50 (Rat): > 42.1 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 9,500 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:

Acute oral toxicity : LD50 (Rat): 2,295 mg/kg
Remarks: Based on test data

Acute inhalation toxicity : LC50 (Rat): > 1.49 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

3-Aminopropyltriethoxysilane:

Acute oral toxicity : LD50 (Rat): 1.57 ml/kg
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): 4.29 ml/kg
Remarks: Information taken from reference works and the literature.

Methanol:

Acute oral toxicity : Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgement

Acute inhalation toxicity : Acute toxicity estimate (Humans): 3 mg/l

Test atmosphere: vapour
Method: Expert judgement

Acute dermal toxicity : Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgement

Dimethylbis[(1-oxoneodecyl)oxy]stannane:
Acute oral toxicity : LD50 (Rat): 894 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Methyltrimethoxysilane:
Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

1,6-Bis(trimethoxysilyl)hexane:
Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:
Species: Rabbit
Result: Mild skin irritation
Remarks: Based on test data

3-Aminopropyltriethoxysilane:
Species: Rabbit
Result: Corrosive after 3 minutes to 1 hour of exposure
Remarks: Based on test data

Methanol:
Species: Rabbit
Result: No skin irritation

N, N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine:
Result: Skin irritation
Remarks: Information taken from reference works and the literature.

N, N-Bis(3-(Trimethoxysilyl)propyl)-1,2-ethanediamine:
Result: Skin irritation
Remarks: Based on data from similar materials

Oligomers of aminoalkylmethoxysilanes:
Species: Rabbit
Result: Mild skin irritation
Remarks: Based on test data

Dimethylbis[(1-oxoneodecyl)oxy]stannane:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Remarks: Based on data from similar materials

Methyltrimethoxysilane:
Species: Rabbit
Result: No eye irritation
Remarks: Based on test data

1,6-Bis(trimethoxysilyl)hexane:
Species: Rabbit
Result: No eye irritation
Remarks: Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:
Species: Rabbit
Result: Irreversible effects on the eye
Remarks: Based on test data

3-Aminopropyltriethoxysilane:
Species: Rabbit
Result: Irreversible effects on the eye
Remarks: Based on test data

Methanol:
Species: Rabbit
Result: No eye irritation

N, N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine:
Result: Irreversible effects on the eye
Remarks: Information taken from reference works and the literature.

N, N-Bis(3-(Trimethoxysilyl)propyl)-1,2-ethanediamine:
Result: Irreversible effects on the eye
Remarks: Based on data from similar materials

Oligomers of aminoalkylmethoxysilanes:
Species: Rabbit
Result: Irreversible effects on the eye
Remarks: Based on test data

Dimethylbis[(1-oxoneodecyl)oxy]stannane:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation: May cause an allergic skin reaction.
Respiratory sensitisation: Not classified based on available information.

Components:

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane:
Assessment: Does not cause skin sensitisation.

Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Remarks: No known sensitising effect.
Based on data from similar materials

Methyltrimethoxysilane:
Assessment: Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type: Buehler Test
Species: Guinea pig
Remarks: Based on test data

1,6-Bis(trimethoxysilyl)hexane:
Assessment: Does not cause skin sensitisation.

Test Type: Buehler Test
Species: Guinea pig
Remarks: No known sensitising effect.
Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:
Assessment: Probability or evidence of skin sensitisation in humans

Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Remarks: Causes sensitisation.
Information taken from reference works and the literature.

3-Aminopropyltriethoxysilane:
Assessment: Probability or evidence of skin sensitisation in humans

Test Type: Buehler Test
Species: Guinea pig
Remarks: Causes sensitisation.
Based on test data

Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Remarks: No known sensitising effect.
Based on test data

Methanol:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

N, N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine:
Assessment: Probability or evidence of skin sensitisation in humans

N, N-Bis(3-(Trimethoxysilyl)propyl)-1,2-ethanediamine:
Assessment: Probability or evidence of skin sensitisation in humans

Oligomers of aminoalkylmethoxysilanes:
Assessment: Probability or evidence of skin sensitisation in humans

Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Remarks: Causes sensitisation.
Information taken from reference works and the literature.

Germ cell mutagenicity

Not classified based on available information.

Components:

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

Methyltrimethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion

Result: negative
Remarks: Based on test data

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

1,6-Bis(trimethoxysilyl)hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

: Test Type: Chromosome aberration test in vitro
Result: positive
Remarks: Based on test data

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on test data

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

3-Aminopropyltriethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

: Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on test data

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: negative
Remarks: Based on test data

: Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative
Remarks: Based on test data

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on test data

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

Methanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Dimethylbis[(1-oxoneodecyl)oxy]stannane:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

3-Aminopropyltriethoxysilane:
Species: Mouse
Application Route: Skin contact
Result: negative
Remarks: Based on test data

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Methanol:
Species: Mouse
Application Route: inhalation (vapour)
Exposure time: 18 Months
Method: OECD Test Guideline 453
Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

Methyltrimethoxysilane:
Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fertility
Remarks: Based on test data

Effects on foetal develop- : Test Type: Combined repeated dose toxicity study with the

ment		reproduction/developmental toxicity screening test Species: Rat, male and female Application Route: Ingestion Symptoms: No effects on foetal development Remarks: Based on test data
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

1,6-Bis(trimethoxysilyl)hexane:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat, male and female Application Route: Ingestion Symptoms: No effects on fertility Remarks: Based on test data
Effects on foetal development	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat, male and female Application Route: Ingestion Symptoms: No effects on foetal development Remarks: Based on test data
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Application Route: Ingestion Symptoms: No effects on fertility Remarks: Based on test data
Effects on foetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Application Route: Ingestion Symptoms: No effects on foetal development Remarks: Based on test data
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

3-Aminopropyltriethoxysilane:

Effects on fertility	:	Species: Rat, male and female Application Route: Ingestion Symptoms: No effects on fertility Remarks: Based on test data
Effects on foetal development	:	Test Type: Prenatal development toxicity study (teratogenicity) Species: Rat Application Route: Ingestion Symptoms: No effects on foetal development

Remarks: Based on test data

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Methanol:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive
Remarks: The effects were seen only at maternally toxic doses.

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Not classified based on available information.

Components:

Methanol:
Target Organs: Eyes, Central nervous system
Assessment: Causes damage to organs.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Methyltrimethoxysilane:
Exposure routes: inhalation (vapour)
Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Exposure routes: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

1,6-Bis(trimethoxysilyl)hexane:
Exposure routes: Ingestion
Target Organs: Bladder
Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:
Exposure routes: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

3-Aminopropyltriethoxysilane:
Exposure routes: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Exposure routes: inhalation (dust/mist/fume)
Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Exposure routes: Skin contact
Assessment: No significant health effects observed in animals at concentrations of 200 mg/kg bw or less.

Dimethylbis[(1-oxoneodecyl)oxy]stannane:
Exposure routes: Ingestion
Target Organs: Immune system, Central nervous system
Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Repeated dose toxicity

Components:

Methyltrimethoxysilane:
Species: Rat
Application Route: inhalation (vapour)
Remarks: Based on test data

Species: Rat
Application Route: Ingestion
Remarks: Based on test data

1,6-Bis(trimethoxysilyl)hexane:
Species: Rat
Application Route: Ingestion
Target Organs: Bladder
Remarks: Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:
Application Route: Ingestion
Remarks: Based on test data

3-Aminopropyltriethoxysilane:
Species: Rat
Application Route: Ingestion
Remarks: Based on test data

Species: Rat
Application Route: inhalation (dust/mist/fume)
Remarks: Based on test data

Species: Rabbit
Application Route: Skin contact
Remarks: Based on data from similar materials

Methanol:
Species: Rat
NOAEL: 1.06 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 d

Dimethylbis[(1-oxoneodecyl)oxy]stannane:
Species: Rat
NOAEL: < 1.6 mg/kg
Application Route: Ingestion
Exposure time: 90 d
Remarks: Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

SECTION 12: Ecological information

12.1 Toxicity

Components:

Methyltrimethoxysilane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia sp.): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to bacteria	:	EC50 : > 100 mg/l Method: OECD Test Guideline 209

1,6-Bis(trimethoxysilyl)hexane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Remarks: Based on test data

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Remarks: Based on test data
Toxicity to algae	:	EC50 (Selenastrum capricornutum (green algae)): > 100 mg/l Exposure time: 72 h Remarks: Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 597 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia sp.): 81 mg/l Exposure time: 48 h Method: Directive 67/548/EEC, Annex V, C.2.
Toxicity to algae	:	ErC50 (Selenastrum capricornutum (green algae)): 8.8 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Selenastrum capricornutum (green algae)): 3.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to bacteria	:	EC50 (Pseudomonas putida): 67 mg/l Exposure time: 16 h Test Type: Growth inhibition Method: DIN 38 412 Part 8
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 1 mg/l Exposure time: 21 d Species: Daphnia sp.

3-Aminopropyltriethoxysilane:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 934 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia sp.): 331 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Scenedesmus subspicatus): > 1,000 mg/l Exposure time: 72 h

Methanol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h

Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l Exposure time: 96 h Method: OPPTS 850.5400
Toxicity to bacteria	:	EC50 : 20,000 mg/l Exposure time: 15 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 15,800 mg/l Exposure time: 200 h Species: Oryzias latipes (Orange-red killifish)

Oligomers of aminoalkylmethoxysilanes:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 597 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia sp.): 37 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 8.8 mg/l Exposure time: 72 h Remarks: Based on data from similar materials NOEC (Pseudokirchneriella subcapitata (green algae)): 3.1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 1 mg/l Exposure time: 21 d Species: Daphnia sp. Remarks: Based on data from similar materials

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

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

12.2 Persistence and degradability

Components:

Aminopropyltriethoxysilane Rxn with Glycidoxypropyltrimethoxysilane and Methyltrimethoxysilane:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 41.3 % Exposure time: 28 d Method: OECD Test Guideline 301B

Methyltrimethoxysilane:

Stability in water	:	Degradation half life: 2.2 h pH: 7

1,6-Bis(trimethoxysilyl)hexane:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 74 %
Exposure time: 28 d
Remarks: Based on test data
The 10 day time window criterion is not fulfilled.

Stability in water : Degradation half life: 5.2 h pH: 7

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 39 %
Method: OECD Test Guideline 301A

Stability in water : Degradation half life: 0.025 h (24.7 °C) pH: 7
Method: OECD Test Guideline 111

3-Aminopropyltriethoxysilane:

Stability in water : Degradation half life: 8.5 h pH: 7

Methanol:

Biodegradability : Result: Readily biodegradable
Biodegradation: 95 %
Exposure time: 20 d

Oligomers of aminoalkylmethoxysilanes:

Biodegradability : Result: Not readily biodegradable.

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

Methyltrimethoxysilane:

Partition coefficient: n-octanol/water : log Pow: -2.36

1,6-Bis(trimethoxysilyl)hexane:

Partition coefficient: n-octanol/water : log Pow: 3.74
Remarks: Based on test data

N-(3-(Trimethoxysilyl)propyl)ethylenediamine:

Partition coefficient: n-octanol/water : log Pow: -0.3

3-Aminopropyltriethoxysilane:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): < 100

Partition coefficient: n-octanol/water : log Pow: -2.85

Methanol:

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

Partition coefficient: n-octanol/water : log Pow: -0.77

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1993

ADR : UN 1993

RID : UN 1993

IMDG : UN 1993

IATA : UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S.
(Methyltrimethoxysilane)

ADR : FLAMMABLE LIQUID, N.O.S.

(Methyltrimethoxysilane)

RID : FLAMMABLE LIQUID, N.O.S. (Methyltrimethoxysilane)

IMDG : FLAMMABLE LIQUID, N.O.S. (Methyltrimethoxysilane)

IATA : Flammable liquid, n.o.s. (Methyltrimethoxysilane)

14.3 Transport hazard class(es)

ADN : 3

ADR : 3

RID : 3

IMDG : 3

IATA : 3

14.4 Packing group

ADN

Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3

ADR

Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3
Tunnel restriction code	: (D/E)

RID

Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3

IMDG

Packing group	: III
Labels	: 3
EmS Code	: F-E, S-E

IATA

Packing instruction (cargo aircraft)	: 366
Packing instruction (passenger aircraft)	: 355
Packing instruction (LQ)	: Y344
Packing group	: III
Labels	: Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

		Quantity 1	Quantity 2
6	Flammable.	5,000 t	50,000 t

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t

Other regulations : Take note of Dir 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

TSCA : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

IECSC	:	All ingredients listed or exempt.
DSL	:	This product contains one or more substances which are not on the Canadian Domestic Substances List (DSL). Import of this product into Canada has volume limitations. For volume limits please consult Dow Corning Regulatory Compliance.
REACH	:	Consult your local Dow Corning office.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of R-Phrases

R11	:	Highly flammable.
R20	:	Harmful by inhalation.
R22	:	Harmful if swallowed.
R23/24/25	:	Toxic by inhalation, in contact with skin and if swallowed.
R34	:	Causes burns.
R36	:	Irritating to eyes.
R38	:	Irritating to skin.
R39/23/24/25	:	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R41	:	Risk of serious damage to eyes.
R43	:	May cause sensitisation by skin contact.
R48/25	:	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R51/53	:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	:	May cause long-term adverse effects in the aquatic environment.
R63	:	Possible risk of harm to the unborn child.

Full text of H-Statements

H225	:	Highly 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.
H361d	:	Suspected of damaging the unborn child.
H370	:	Causes damage to organs.
H372	:	Causes damage to organs through prolonged or repeated exposure if swallowed.
H413	:	May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
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
2006/15/EC	:	Europe. Indicative occupational exposure limit values
DCC OEL	:	Dow Corning Guide
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2006/15/EC / TWA	:	Limit Value - eight hours
DCC OEL / TWA	:	Time weighted average
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN