XIAMETER(R) RTV-3081-F SILICONE RUBBER CURING AGENT

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

1.1 Product identifier

Trade name : XIAMETER(R) RTV-3081-F SILICONE RUBBER CURING AGENT

Product code : 000000000004107685

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

Use of the Substance/Mixture : Vulcanising agents, Polymer

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

PO box : 65091

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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)

Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements : H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Hazardous components which must be listed on the label:
Dimethylbis[(1-oxoneodecyl)oxy]stannane

2.3 Other hazards

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Organotin compound

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Trimethoxyphenylsilane	2996-92-1 221-066-9 01-2119964479-19	Flam. Liq. 3; H226 Acute Tox. 4; H302 STOT RE 2; H373	>= 10 - < 20
Dimethylbis[(1-oxoneodecyl)oxy]stannane	68928-76-7 273-028-6	Acute Tox. 4; H302 Repr. 2; H361d STOT RE 1; H372 Aquatic Chronic 3; H412	>= 3 - < 10

Methanol	67-56-1 200-659-6 01-2119433307-44	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370	>= 0.1 - < 1
Tetramethoxysilane	681-84-5 211-656-4	Flam. Liq. 3; H226 Acute Tox. 1; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT RE 1; H372	>= 0.1 - < 1

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.

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 : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

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

4.2 Most important symptoms and effects, both acute and delayed

Risks : Suspected of damaging the unborn child.
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 Carbon dioxide (CO2) Dry chemical
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 Metal oxides

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 : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.

Advice on safe handling : Avoid inhalation of vapour or mist.
Do not swallow.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice.
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. Store locked up. 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
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 materials 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
Trimethoxyphenylsilane	2996-92-1	TWA	50 ppm	DCC OEL
Dimethylbis[(1-oxoneodecyl)oxy]stannane	68928-76-7	OELV - 8 hrs (TWA)	0.1 mg/m3 (Tin)	IE OEL
Further information	Indicative Occupational Exposure Limit Value			
		OELV - 15 min (STEL)	0.2 mg/m3 (Tin)	IE OEL
Further information	Indicative Occupational Exposure Limit Value			
Methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		OELV - 8 hrs (TWA)	200 ppm 260 mg/m3	IE OEL
Further information	Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used, Indicative Occupational Exposure Limit Value			

Tetramethoxysilane	681-84-5	OELV - 8 hrs (TWA)	1 ppm 6 mg/m3	IE OEL
		OELV - 15 min (STEL)	5 ppm 30 mg/m3	IE OEL

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Propan-1-ol	71-23-8	OELV - 8 hrs (TWA)	100 ppm	IE OEL
Further information	Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used			
Methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		OELV - 8 hrs (TWA)	200 ppm 260 mg/m3	IE OEL
Further information	Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used, Indicative Occupational Exposure Limit Value			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Tetrapropyl orthosilicate	Workers	Inhalation	Long-term systemic effects	85 mg/m3
	Workers	Inhalation	Acute systemic effects	85 mg/m3
	Workers	Skin contact	Long-term systemic effects	12 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	12 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	21 mg/m3
	Consumers	Inhalation	Acute systemic effects	21 mg/m3
	Consumers	Skin contact	Long-term systemic effects	6 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	6 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	6 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	6 mg/kg bw/day
Alkoxysilane	Workers	Skin contact	Acute systemic effects	2.5 mg/kg bw/day
	Workers	Inhalation	Acute systemic effects	40.2 mg/m3
	Workers	Skin contact	Long-term systemic	2.5 mg/kg

			effects	bw/day
	Workers	Inhalation	Long-term systemic effects	40.2 mg/m3
	Consumers	Skin contact	Acute systemic effects	33.3 mg/kg bw/day
	Consumers	Inhalation	Acute systemic effects	10 mg/m3
	Consumers	Ingestion	Long-term systemic effects	0.7 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects	1.7 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	10 mg/m3
Methanol	Workers	Inhalation	Long-term systemic effects	260 mg/m3
	Workers	Inhalation	Acute systemic effects	260 mg/m3
	Workers	Inhalation	Long-term local effects	260 mg/m3
	Workers	Inhalation	Acute local effects	260 mg/m3
	Workers	Skin contact	Long-term systemic effects	40 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	40 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
	Consumers	Inhalation	Acute systemic effects	50 mg/m3
	Consumers	Inhalation	Long-term local effects	50 mg/m3
	Consumers	Inhalation	Acute local effects	50 mg/m3
	Consumers	Skin contact	Long-term systemic effects	8 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	8 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	8 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	8 mg/kg bw/day
Tetramethoxysilane	Workers	Inhalation	Long-term local effects	93 mg/m3
	Workers	Skin contact	Long-term systemic effects	0.3 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Tetrapropyl orthosilicate	Fresh water	10 mg/l
	Marine water	1 mg/l
	Fresh water sediment	11 mg/kg
	Marine sediment	1.1 mg/kg
	Soil	3.9 mg/kg
	Sewage treatment plant	96 mg/l

Alkoxysilane	Fresh water	0.24 mg/l
	Marine water	0.024 mg/l
	Fresh water sediment	0.24 mg/kg
	Marine sediment	0.024 mg/kg
	Soil	0.07 mg/kg
	Sewage treatment plant	74 mg/l
Methanol	Fresh water	154 mg/l
	Marine water	15.4 mg/l
	Intermittent use/release	1540 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	570.4 mg/kg
	Soil	23.5 mg/kg
Tetramethoxysilane	Fresh water	5 mg/l
	Marine water	0.5 mg/l
	Fresh water sediment	4.44 mg/kg
	Marine sediment	0.44 mg/kg
	Soil	0.99 mg/kg
	Sewage treatment plant	> 1 mg/l

8.2 Exposure controls

Engineering measures

Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Eye protection : Wear the following personal protective equipment:
Safety glasses

Hand protection
Material : Chemical-resistant 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. Take note that the product is flammable, which may impact the selection of hand protection. 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	:	liquid
Colour	:	Clear to slightly hazy, colourless
Odour	:	slight
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> 35 °C
Flash point	:	64 °C Method: Pensky-Martens 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	:	0.969
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 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	:	Combustible liquid. 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 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	:	Propan-1-ol Methanol
Thermal decomposition	:	Benzene 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: > 20 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

Components:

Trimethoxyphenylsilane:

Acute oral toxicity	:	LD50 (Rat): 1,049 mg/kg Remarks: Based on test data

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

Methanol:

Acute oral toxicity	:	Acute toxicity estimate (Humans): 300 mg/kg Method: Expert judgement
Acute inhalation toxicity	:	Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Expert judgement Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI
Acute dermal toxicity	:	Acute toxicity estimate (Humans): 300 mg/kg Method: Expert judgement

Tetramethoxysilane:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg

Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): 63 ppm
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): 17,544 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Information taken from reference works and the literature.

Skin corrosion/irritation

Not classified based on available information.

Components:

Trimethoxyphenylsilane:

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

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Methanol:

Species: Rabbit
Result: No skin irritation

Tetramethoxysilane:

Species: Rabbit
Result: Skin irritation
Remarks: Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Trimethoxyphenylsilane:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Methanol:

Species: Rabbit
Result: No eye irritation

Tetramethoxysilane:

Result: Irreversible effects on the eye
Remarks: Based on test data

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Methanol:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Tetramethoxysilane:

Assessment: Does not cause skin sensitisation.

Test Type: Buehler Test
Species: Guinea pig
Remarks: Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Trimethoxyphenylsilane:

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

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

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

Result: negative

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

Tetramethoxysilane:

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

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

Carcinogenicity

Not classified based on available information.

Components:

Methanol:

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

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

Trimethoxyphenylsilane:

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 development : 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 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.

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Reproductive toxicity - Assessment : Some evidence of adverse effects 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.

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:

Trimethoxyphenylsilane:

Exposure routes: Ingestion
Target Organs: Bladder, Kidney
Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Exposure routes: inhalation (vapour)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d 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.

Tetramethoxysilane:

Exposure routes: inhalation (vapour)
Target Organs: Respiratory system
Assessment: Shown to produce significant health effects in animals at concentrations of 0.2 mg/l/6h/d or less.

Repeated dose toxicity

Components:

Trimethoxyphenylsilane:

Species: Rat
Application Route: Ingestion
Target Organs: Bladder, Kidney
Remarks: Based on test data

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

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Species: Rat
NOAEL: < 1.6 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Remarks: Based on data from similar materials

Methanol:

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

Tetramethoxysilane:

Species: Rat
Application Route: inhalation (vapour)
Target Organs: Respiratory system
Remarks: Based on test data

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Trimethoxyphenylsilane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia sp.): > 0.0029 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on test data No toxicity at the limit of solubility
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.17 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on test data No toxicity at the limit of solubility
Toxicity to bacteria	:	EC50 : > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (green algae)): 37 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials EC10 (Desmodesmus subspicatus (green algae)): 5.7 mg/l Exposure time: 72 h

Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

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)

Tetramethoxysilane:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 245 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1. Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 75 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials No toxicity at the limit of solubility
Toxicity to algae	:	ErC50 (Selenastrum capricornutum (green algae)): > 22 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: No toxicity at the limit of solubility

Ecotoxicology Assessment

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

12.2 Persistence and degradability

Components:

Trimethoxyphenylsilane:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 1 % Exposure time: 28 d

Method: OECD Test Guideline 310
Remarks: Based on data from similar materials

Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 3 %
Exposure time: 35 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Methanol:

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

Tetramethoxysilane:

Stability in water : Degradation half life: < 3 min pH: 7

12.3 Bioaccumulative potential

Components:

Methanol:

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

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

Tetramethoxysilane:

Partition coefficient: n-octanol/water : log Pow: -0.5

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 : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol 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 III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

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

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

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

NZIoC : All ingredients listed or exempt.

REACH : For purchases from Dow Corning EU legal entities, all ingredients are currently pre/registered or exempt under REACH. For purchases from non-EU Dow Corning legal entities with the intention to export into EEA please contact your DC representative/local office.

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

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from inventory listing.

KECI : All ingredients listed, exempt or notified.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

TCSI : All ingredients listed or exempt.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H301 : Toxic if swallowed.

H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H330	:	Fatal if inhaled.
H331	:	Toxic 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 inhaled.
H372	:	Causes damage to organs through prolonged or repeated exposure if swallowed.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Dam.	:	Serious eye damage
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
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
IE OEL	:	Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
2006/15/EC / TWA	:	Limit Value - eight hours
DCC OEL / TWA	:	Time weighted average
IE OEL / OELV - 8 hrs (TWA)	:	Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min (STEL)	:	Occupational exposure limit value (15-minute reference period)

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; AICS - Australian Inventory of Chemical Substances; 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; 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

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/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.

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