SAFETY DATA SHEET

DOW FRANCE S.A.S.

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

Product name: SILASTIC™ RTV-3081-R Mould-Making Curing Agent

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DOW FRANCE S.A.S. 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: SILASTIC™ RTV-3081-R Mould-Making Curing Agent
UFI: D0JE-M00H-W00Q-P1T6

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Polymer Vulcanising agents Curing agent

1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION
DOW FRANCE S.A.S.
23 AVENUE JULES RIMET
93210 LA PLAINE SAINT-DENIS
FRANCE

Customer Information Number: (31) 115 67 2626
SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 00 33 388 736 000
Local Emergency Contact: 00 33 388 736 000
ORFILA: + 33 (0)1 45 42 59 59

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
Specific target organ toxicity - repeated exposure - Category 2 - Oral - H373
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

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

® ™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Hazard pictograms



Signal word: WARNING

Hazard statements

H317	May cause an allergic skin reaction.
H373	May cause damage to organs (Bladder, Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statements

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves.
P314	Get medical advice/ attention if you feel unwell.
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.

Contains Trimethoxyphenylsilane; Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane

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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Organotin compound
3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008

CASRN 2996-92-1 **EC-No.** 221-066-9 **Index-No.** –	01-2119964479-19	>= 10,0 - <= 13,0 %	Trimethoxyphenylsilane	Flam. Liq. 3; H226 Acute Tox. 4; H302 STOT RE 2; H373 (Bladder, Kidney) Acute toxicity estimate Acute oral toxicity: 1 049 mg/kg Acute dermal toxicity: 2 471 mg/kg
CASRN 68928-76-7 **EC-No.** 273-028-6 **Index-No.** –	01-2120770324-57	>= 1,3 - <= 2,7 %	Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	Acute Tox. 4; H302 Skin Irrit. 2; H315 Skin Sens. 1A; H317 Aquatic Chronic 3; H412 Acute toxicity estimate Acute oral toxicity: 892 mg/kg Acute dermal toxicity: > 2 000 mg/kg
CASRN 67-56-1 **EC-No.** 200-659-6 **Index-No.** 603-001-00-X	_	>= 0,09 - <= 0,41 %	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
CASRN 681-84-5 **EC-No.** 211-656-4 **Index-No.** –	_	<= 0,14 %	Tetramethyl orthosilicate	Flam. Liq. 3; H226 Acute Tox. 1; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT RE 1; H372 (Respiratory system) Acute toxicity estimate Acute oral toxicity: > 2 500 mg/kg

				Acute inhalation toxicity: 0,392 mg/l, 4 Hour, vapour
CASRN 18406-41-2 **EC-No.** 242-285-6 **Index-No.** –	_	>= 0,014 - <= 0,023 %	1,2-Bis (trimethoxysilyl) ethane	Acute Tox. 4; H302 Acute Tox. 1; H330 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT RE 1; H372 (Nasal inner lining, Respiratory system, Eyes) Acute toxicity estimate Acute oral toxicity: 1 910 mg/kg Acute inhalation toxicity: 0,03 mg/l, 4 Hour, vapour

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

SECTION 4: FIRST AID MEASURES

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

Inhalation: Move person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

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

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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: May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam. Dry sand. Dry chemical.

Unsuitable extinguishing media: High volume water jet. Do not use direct water stream..

5.2 Special hazards arising from the substance or mixture

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

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Vapours may form explosive mixtures with air..

5.3 Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.. Do not use a solid water stream as it may scatter and spread fire..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

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

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

6.3 Methods and materials for containment and cleaning up: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.

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

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Do not get on skin or clothing. Avoid inhalation of vapour or mist. Avoid contact with eyes. Do not swallow. Keep container tightly closed. 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. Handle in accordance with good industrial hygiene and safety practice. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied. Use with local exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

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

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

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Component	Regulation	Type of listing	Value
Trimethoxyphenylsilane	Dow IHG	TWA	5 ppm
Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	ACGIH	TWA	0,1 mg/m3 , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	ACGIH	STEL	0,2 mg/m3 , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	FR VLE	VME	0,1 mg/m3 , Tin
	Further information: Indicative exposure limits: Indicative exposure limits		
	FR VLE	VLCT (VLE)	0,2 mg/m3 , Tin
	Further information: Indicative exposure limits: Indicative exposure limits		
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		
	FR VLE	VME	260 mg/m3 200 ppm
	Further information: Skin: Risk of penetration through skin; REL binding: Regulatory binding exposure limits		
	FR VLE	VLCT (VLE)	1 300 mg/m3 1 000 ppm
	Further information: Skin: Risk of penetration through skin; Indicative exposure limits: Indicative exposure limits		
Tetramethyl orthosilicate	ACGIH	TWA	1 ppm
	FR VLE	VME	6 mg/m3 1 ppm
	Further information: Indicative exposure limits: Indicative exposure limits		
1,2-Bis (trimethoxysilyl) ethane	Dow IHG	TWA	0.15 Parts per billion
	Dow IHG	STEL	1 Parts per billion

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

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Recommended monitoring procedures

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents); European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods. Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.

Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany.
L'Institut National de Recherche et de Securité, (INRS), France.

Derived No Effect Level
Trimethoxyphenylsilane
Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
2,5 mg/kg bw/day	40,2 mg/m3	n.a.	n.a.	2,5 mg/kg bw/day	40,2 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
33,3 mg/kg bw/day	10 mg/m3	n.a.	n.a.	n.a.	1,7 mg/kg bw/day	10 mg/m3	0,7 mg/kg bw/day	n.a.	n.a.

methanol
Workers

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

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

Tetramethyl orthosilicate
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.	0,3 mg/kg bw/day	n.a.	n.a.	93 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.	n.a.	n.a.	n.a.

Predicted No Effect Concentration

Trimethoxyphenylsilane

Compartment	PNEC
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

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

Tetramethyl orthosilicate

Compartment	PNEC
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 controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	liquid
Color	Clear to slightly hazy, colourless
Odor	slight
pH	Not applicable, substance/mixture is non-soluble (in water)
Melting point/freezing point	
Melting point/range	not determined
Freezing point	not determined
Boiling point or initial boiling point and boiling range	
Boiling point (760 mmHg)	> 65 °C
Flash point	**Pensky-Martens closed cup** 66 °C
Flammability (solid, gas)	Not applicable, liquid
Flammability (liquids)	Not applicable
Lower explosion limit	
Upper explosion limit	not determined
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	not determined
Relative Density (water = 1)	0,962
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	> 20,5 mm2/s at 40 °C
Particle characteristics	
Particle size	Not applicable, liquid

9.2 Other information

Molecular weight	No data available
Dynamic Viscosity	40 mPa.s
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Metal corrosion rate	Not corrosive to metals
Evaporation Rate (Butyl Acetate = 1)	No data available

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

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not classified as a reactivity hazard.

10.2 Chemical stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions: Can react with strong oxidizing agents. Vapours may form explosive mixture with air. Combustible liquid.

10.4 Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials: Avoid contact with oxidizing materials.

10.6 Hazardous decomposition products:
Decomposition products can include and are not limited to: Formaldehyde. Propyl alcohol. Methanol. Benzene.

SECTION 11: TOXICOLOGICAL INFORMATION

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

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

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

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

Acute oral toxicity
Very low toxicity if swallowed. Swallowing may result in gastrointestinal irritation. May cause nausea and vomiting.

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

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

Information for components:

Trimethoxyphenylsilane
Based on product testing: LD50, Rat, 1 049 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.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
LD50, Rat, male and female, 892 mg/kg OECD 401 or equivalent

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.

Tetramethyl orthosilicate
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

For similar material(s): LD50, Rat, male and female, > 2 500 mg/kg OECD Test Guideline 423 No deaths occurred at this concentration.

1,2-Bis (trimethoxysilyl) ethane
LD50, Rat, 1 910 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.

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, > 2 000 mg/kg Estimated.

Information for components:

Trimethoxyphenylsilane
For similar material(s): LD50, Rabbit, male, 2 471 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.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
LD50, Rat, > 2 000 mg/kg

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

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

The dermal LD50 has not been determined.

1,2-Bis (trimethoxysilyl) ethane
The dermal LD50 has not been determined.

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

Acute inhalation toxicity
Brief exposure (minutes) is not likely to cause adverse effects. Mist may cause irritation of upper respiratory tract (nose and throat) and lungs. Excessive exposure may cause: Dizziness. Drowsiness.

As product: The LC50 has not been determined.

Information for components:

Trimethoxyphenylsilane
The LC50 has not been determined.

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

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
As product: The LC50 has not been determined.

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

Tetramethyl orthosilicate
Vapor concentrations are attainable which may be fatal with single exposure. May cause lung injury.

LC50, Rat, male, 4 Hour, vapour, 0,392 mg/l OECD Test Guideline 403

1,2-Bis (trimethoxysilyl) ethane
LC50, Rat, 4 Hour, vapour, 0,03 mg/l

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.

Skin corrosion/irritation
Based on information for component(s):
Brief contact may cause slight skin irritation with local redness.

Information for components:

Trimethoxyphenylsilane
Brief contact is essentially nonirritating to skin.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
Brief contact may cause skin irritation with local redness.

methanol
Prolonged contact may cause slight skin irritation with local redness.

Tetramethyl orthosilicate
Brief contact may cause slight skin irritation with local redness.

1,2-Bis (trimethoxysilyl) ethane
Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Serious eye damage/eye irritation
Based on information for component(s):
May cause slight temporary eye irritation.
May cause slight temporary corneal injury.

May cause mild eye discomfort.

Information for components:

Trimethoxyphenylsilane
Essentially nonirritating to eyes.
Corneal injury is unlikely.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
May cause slight eye irritation.
May cause slight temporary corneal injury.

methanol
May cause eye irritation.

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

1,2-Bis (trimethoxysilyl) ethane
May cause severe eye irritation.

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:

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

For respiratory sensitization:
No relevant data found.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

methanol
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Tetramethyl orthosilicate

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

For respiratory sensitization:
No relevant data found.

1,2-Bis (trimethoxysilyl) ethane
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Available data are inadequate to determine single exposure specific target organ toxicity.

Information for components:

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

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

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

1,2-Bis (trimethoxysilyl) ethane
Available data are inadequate to determine single exposure specific target organ toxicity.

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

Information for components:

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

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
Based on physical properties, not likely to be an aspiration hazard.

methanol
May be harmful if swallowed and enters airways.

Tetramethyl orthosilicate
May be harmful if swallowed and enters airways.

1,2-Bis (trimethoxysilyl) ethane

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

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 component(s) which have been reported to cause effects on the following organs in animals:
Blood
Liver
kidney
Bladder
Immune system.

Information for components:

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

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
In animals, effects have been reported on the following organs:
Blood
Kidney
Liver
Immune system.

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.

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

1,2-Bis (trimethoxysilyl) ethane
In animals, effects have been reported on the following organs:
Nasal Cavity
Respiratory tract.
Eye.

Carcinogenicity
Contains a component(s) which did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling.

Information for components:

Trimethoxyphenylsilane
No relevant data found.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
No relevant data found.

methanol
Did not cause cancer in laboratory animals.

Tetramethyl orthosilicate
No relevant data found.

1,2-Bis (trimethoxysilyl) ethane
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:

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

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
No relevant data found.

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

Tetramethyl orthosilicate
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.

1,2-Bis (trimethoxysilyl) ethane
No relevant data found.

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

Information for components:

Trimethoxyphenylsilane
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
No relevant data found.

methanol
In animal studies, did not interfere with reproduction.

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

1,2-Bis (trimethoxysilyl) ethane
No relevant data found.

Mutagenicity
Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

Information for components:

Trimethoxyphenylsilane
In vitro genetic toxicity studies were negative.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

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

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

1,2-Bis (trimethoxysilyl) ethane
No relevant data found.

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:

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

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

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.

Tetramethyl orthosilicate
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.

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

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

Trimethoxyphenylsilane

Acute toxicity to fish
Based on data from similar materials
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 100 mg/l, OECD Test Guideline 203
On basis of test data.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0,20 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
On basis of test data.
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), 48 Hour, > 0,0029 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
On basis of test data.
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0,17 mg/l, OECD Test Guideline 201

Toxicity to bacteria
Based on data from similar materials
EC50, 3 Hour, > 1 000 mg/l, OECD Test Guideline 209

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

Acute toxicity to fish
Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).
For similar material(s):
LC50, Zebra fish (Danio/Brachydanio rerio), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna, static test, 48 Hour, 39 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 7,6 mg/l, OECD Test Guideline 201 or Equivalent
For similar material(s):

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

Toxicity to bacteria
For similar material(s):
EC50, Bacteria, 3 Hour, Respiration rates., 14 mg/l

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

Tetramethyl orthosilicate

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).
For similar material(s):
LC50, Zebra fish (Danio/Brachydanio rerio), 96 Hour, > 245 mg/l

Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna (Water flea), 48 Hour, > 500 mg/l

Acute toxicity to algae/aquatic plants
For similar material(s):
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 100 mg/l

1,2-Bis (trimethoxysilyl) ethane

Acute toxicity to aquatic invertebrates
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).
For similar material(s):

EL50, Daphnia magna (Water flea), 48 Hour, 92,2 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
For similar material(s):
EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 671 mg/l, OECD Test Guideline 201 or Equivalent

12.2 Persistence and degradability

Trimethoxyphenylsilane
Biodegradability:
Based on data from similar materials
Biodegradation: 1 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
Biodegradability: For similar material(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
For similar material(s): 10-day Window: Fail
Biodegradation: 3 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

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

Tetramethyl orthosilicate
Biodegradability: For similar material(s): Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
For similar material(s): 10-day Window: Pass
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Stability in Water (1/2-life)
Hydrolysis, DT50, < 3 min, pH 7

1,2-Bis (trimethoxysilyl) ethane
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Biodegradation: 64 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

12.3 Bioaccumulative potential

Trimethoxyphenylsilane
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0,55 Estimated.

Bioconcentration factor (BCF): 3 Fish Estimated.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
Bioaccumulation: No relevant data found.

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

Tetramethyl orthosilicate
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0,5 estimated

1,2-Bis (trimethoxysilyl) ethane
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -1,68 at 25 °C

12.4 Mobility in soil

Trimethoxyphenylsilane
Partition coefficient (Koc): 7500 Estimated.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
No relevant data found.

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

Tetramethyl orthosilicate
No relevant data found.

1,2-Bis (trimethoxysilyl) ethane
No relevant data found.

12.5 Results of PBT and vPvB assessment

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

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

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).

Tetramethyl orthosilicate
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).

1,2-Bis (trimethoxysilyl) ethane
This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Trimethoxyphenylsilane

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

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

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

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.

Tetramethyl orthosilicate

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.

1,2-Bis (trimethoxysilyl) ethane

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

Trimethoxyphenylsilane

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

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

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

methanol

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

Tetramethyl orthosilicate

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

1,2-Bis (trimethoxysilyl) ethane

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

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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

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

SECTION 14: TRANSPORT INFORMATION

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

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

Classification for INLAND waterways (ADNR/ADN):
Consult your Dow contact before transporting by inland waterway

Classification for SEA transport (IMO-IMDG):

14.1	**UN number or ID number**	Not applicable
14.2	**UN proper shipping name**	Not regulated for transport
14.3	**Transport hazard class(es)**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not considered as marine pollutant based on available data.
14.6	**Special precautions for user**	No data available.
14.7	**Maritime transport in bulk according to IMO instruments**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

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

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

SECTION 15: REGULATORY INFORMATION

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

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: Number on list 3 Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane (Number on list 20) 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

Installations classified for the protection of the environment (Environment Code R511-9)
1436: Storage or use of combustible liquids with flash points between 60°C and 93°C.
4722: Methanol (CAS No 67-56-1).

Occupational Illnesses (R-461-3, France): (Not applicable)

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.

SECTION 16: OTHER INFORMATION

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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic 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 swallowed.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Skin Sens. - 1 - H317 - Calculation method
STOT RE - 2 - H373 - Calculation method

Revision

Identification Number: 4107683 / A560 / Issue Date: 22.04.2021 / 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)
Dow IHG	Dow Industrial Hygiene Guideline
FR VLE	France. Occupational Exposure Limits (INRS)
STEL	Short term exposure limit
TWA	Time weighted average
VLCT (VLE)	Short Term Exposure Limit
VME	Time Weighted Average
Acute Tox.	Acute toxicity
Aquatic Chronic	Long-term (chronic) aquatic hazard
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Full text of other abbreviations
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; 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.

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