SAFETY DATA SHEET

DOW FRANCE S.A.S.

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: DOWSIL™ EA-9189 H White

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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: DOWSIL™ EA-9189 H White

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Adhesive, binding agents

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

2.2 Label elements

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

Hazard pictograms



Signal word: WARNING

Hazard statements
H317 May cause an allergic skin reaction.

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

Contains Methyltrimethoxysilane

2.3 Other hazards
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone, Sealant
3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN Not available **EC-No.** Not available **Index-No.** –	–	>= 4,0 - <= 6,0 %	Vinyltrimethoxysilane modified Quartz	Carc. - 1A - H350i STOT RE - 1 - H372
CASRN 1185-55-3 **EC-No.** 214-685-0 **Index-No.** –	01-2119517436-40	>= 1,3 - <= 1,7 %	Methyltrimethoxysilane	Flam. Liq. - 2 - H225 Skin Sens. - 1B - H317

CASRN 27858-32-8 **EC-No.** 248-697-2 **Index-No.** –	–	>= 0,9 - <= 1,3 %	Diisopropoxydi(ethoxyacetoacetyl)titanate	Flam. Liq. - 3 - H226 Eye Irrit. - 2 - H319 STOT SE - 3 - H336
CASRN 1112-39-6 **EC-No.** 214-189-4 **Index-No.** –	01-2119976290-35	>= 0,9 - <= 1,3 %	Dimethyldimethoxysilane	Flam. Liq. - 2 - H225 Repr. - 2 - H361

Substances with a workplace exposure limit

CASRN Not available **EC-No.** Not available **Index-No.** –	–	>= 53,0 - <= 62,0 %	Vinyltrimethoxysilane treated aluminum hydroxide	Not classified

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; if effects occur, consult a physician.

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

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

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

Unsuitable extinguishing media: None known..

5.2 Special hazards arising from the substance or mixture

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

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health..

5.3 Advice for firefighters

Fire Fighting Procedures: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

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: Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up: Wipe up or scrape up and contain for salvage or disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, 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: Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.
Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

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

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/Notation
Vinyltrimethoxysilane modified Quartz	ACGIH	TWA Respirable fraction	0,025 mg/m3 , Silica
	FR VLE	VME Alveolar dust fraction	0,1 mg/m3
	2004/37/EC	TWA Respirable dust	0,1 mg/m3
Methyltrimethoxysilane	Dow IHG	TWA	7,5 ppm
	Dow IHG	TWA	Skin Sensitizer
Vinyltrimethoxysilane treated aluminum hydroxide	ACGIH	TWA Respirable fraction	1 mg/m3 , Aluminium
	FR VLE	VME	10 mg/m3
	FR VLE	VME powder	5 mg/m3
	FR VLE	VME Welding fumes	5 mg/m3
methanol	ACGIH	TWA	200 ppm
	ACGIH	STEL	250 ppm
	ACGIH	TWA	SKIN
	ACGIH	STEL	SKIN
	2006/15/EC	TWA	260 mg/m3 200 ppm
	2006/15/EC	TWA	SKIN
	FR VLE	VME	260 mg/m3 200 ppm
	FR VLE	VME	SKIN
	FR VLE	VLCT (VLE)	1 300 mg/m3 1 000 ppm
	FR VLE	VLCT (VLE)	SKIN
Isopropanol	ACGIH	TWA	200 ppm

ACGIH	STEL		400 ppm
FR VLE	VLCT (VLE)	980 mg/m3	400 ppm

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.
The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:
Methanol.
Isopropanol

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
Isopropanol	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ACGIH BEI

Derived No Effect Level
Methyltrimethoxysilane
Workers

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

Consumers

Acute systemic effects			*Acute local effects*		*Long-term systemic effects*			*Long-term local effects*	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
0,3 mg/kg bw/day	6,25 mg/m3	0,26 mg/kg bw/day	n.a.	n.a.	0,3 mg/kg bw/day	6,25 mg/m3	0,26 mg/kg bw/day	n.a.	n.a.

Diisopropoxydi(ethoxyacetoacetyl)titanate
Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	500 mg/m3	n.a.	n.a.

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.

Dimethyldimethoxysilane

Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
7,44 mg/kg bw/day	88,4 mg/m3	n.a.	n.a.	7,44 mg/kg bw/day	88,4 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
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5,21 mg/kg bw/day	n.a.	n.a.

Predicted No Effect Concentration

Methyltrimethoxysilane

Compartment	**PNEC**
Fresh water	>= 1,3 mg/l
Marine water	>= 0,13 mg/l
Fresh water sediment	>= 1,1 mg/kg
Marine sediment	>= 0,11 mg/kg
Soil	>= 0,17 mg/kg
Sewage treatment plant	> 6,9 mg/l

Diisopropoxydi(ethoxyacetoacetyl)titanate

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

Dimethyldimethoxysilane

Compartment	**PNEC**
Fresh water	0,24 mg/l
Marine water	0,024 mg/l
Fresh water sediment	0,22 mg/kg
Marine sediment	0,022 mg/kg
Soil	0,053 mg/kg

Sewage treatment plant	10 mg/l

8.2 Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

Environmental exposure controls
See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	paste
Color	white
Odor	slight alcoholic
Odor Threshold	No data available
pH	Not applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	Not applicable
Flash point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1,6
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight	No data available
Particle size	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.

10.4 Conditions to avoid: None known.

10.5 Incompatible materials: Oxidizing agents

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

11.1 Information on toxicological effects
Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

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

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

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

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

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to vapor.
The LC50 has not been determined.

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation
May cause slight temporary 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.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Contains component(s) which have been reported to cause effects on the following organs in animals:
Liver.
Testes.
This material contains dimethyldimethoxysilane. Repeated exposure in rats to dimethyldimethoxysilane resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.
Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Carcinogenicity
Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

Teratogenicity
Contains component(s) which caused birth defects in laboratory animals.

Reproductive toxicity
Contains component(s) which have interfered with fertility in animal studies.

Mutagenicity
Contains a component(s) which were negative in in vitro genetic toxicity studies.

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

COMPONENTS INFLUENCING TOXICOLOGY:

Vinyltrimethoxysilane modified Quartz
Acute inhalation toxicity
The LC50 has not been determined.

Methyltrimethoxysilane
Acute inhalation toxicity
LC50, Rat, male and female, 4 Hour, vapour, 51,6 mg/l

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

Dimethyldimethoxysilane
Acute inhalation toxicity
LC50, Rat, 4 Hour, vapour, > 4,7 mg/l

Vinyltrimethoxysilane treated aluminum hydroxide
Acute inhalation toxicity
The LC50 has not been determined.

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

Vinyltrimethoxysilane modified Quartz

Acute toxicity to fish
No relevant data found.

Methyltrimethoxysilane

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 110 mg/l, OECD Test Guideline 203 or Equivalent

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

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 120 mg/l, OECD Test Guideline 201
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 120 mg/l, OECD Test Guideline 201

Diisopropoxydi(ethoxyacetoacetyl)titanate

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Rasbora heteromorpha (Harlequin fish), static test, 96 Hour, 4 200 mg/l

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

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

Dimethyldimethoxysilane

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
Based on data from similar materials
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 126 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 119 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
Based on data from similar materials
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 118 mg/l, OECD Test Guideline 201

Toxicity to bacteria
Based on data from similar materials
EC50, 3 Hour, > 100 mg/l, OECD Test Guideline 209

Vinyltrimethoxysilane treated aluminum hydroxide

Acute toxicity to fish
No relevant data found.

12.2 Persistence and degradability

Vinyltrimethoxysilane modified Quartz

Biodegradability: No relevant data found.

Methyltrimethoxysilane

Biodegradability: No relevant data found.

Diisopropoxydi(ethoxyacetoacetyl)titanate

Biodegradability: For similar material(s): Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 66 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Dimethyldimethoxysilane

Biodegradability: For similar material(s): Material is not readily biodegradable according to OECD/EEC guidelines.
10-day Window: Fail
Biodegradation: 0 %
Exposure time: 28 d

Stability in Water (1/2-life)
, DT50, < 0,6 Hour, pH 7

Vinyltrimethoxysilane treated aluminum hydroxide

Biodegradability: No relevant data found.

12.3 Bioaccumulative potential

Vinyltrimethoxysilane modified Quartz

Bioaccumulation: No relevant data found.

Methyltrimethoxysilane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -2,36

Diisopropoxydi(ethoxyacetoacetyl)titanate

Bioaccumulation: For similar material(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0,05
Bioconcentration factor (BCF): 3 Fish Estimated.

Dimethyldimethoxysilane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): Pow: 2 estimated
Bioconcentration factor (BCF): 3,16 Estimated.

Vinyltrimethoxysilane treated aluminum hydroxide

Bioaccumulation: No relevant data found.

12.4 Mobility in soil

Vinyltrimethoxysilane modified Quartz

No relevant data found.

Methyltrimethoxysilane

No relevant data found.

Diisopropoxydi(ethoxyacetoacetyl)titanate

For similar material(s):
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 1,53 Estimated.

Dimethyldimethoxysilane

Potential for mobility in soil is medium (Koc between 150 and 500).
Partition coefficient (Koc): 168,6 Estimated.

Vinyltrimethoxysilane treated aluminum hydroxide

No relevant data found.

12.5 Results of PBT and vPvB assessment

Vinyltrimethoxysilane modified Quartz

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

Methyltrimethoxysilane

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Diisopropoxydi(ethoxyacetoacetyl)titanate

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Dimethyldimethoxysilane

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

Vinyltrimethoxysilane treated aluminum hydroxide

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

12.6 Other adverse effects

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

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

Diisopropoxydi(ethoxyacetoacetyl)titanate
This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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

Vinyltrimethoxysilane treated aluminum hydroxide
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**	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 SEA transport (IMO-IMDG):

14.1	**UN 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	**Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	**UN 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)., Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either registered, or are exempt from registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer´s/user´s responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

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)
not determined

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.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H350i	May cause cancer by inhalation.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
Skin Sens. - 1 - H317 - Calculation method

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

2004/37/EC	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
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)
SKIN	Absorbed via skin
STEL	Short-term exposure limit
TWA	Time weighted average
VLCT (VLE)	Short Term Exposure Limit
VME	Time Weighted Average
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation

Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity
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; 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; 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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