SAFETY DATA SHEET

DOW CORNING(R) 3145 RTV MIL-A-46146 ADHESIVE/SEALANT CLEAR

Version	Revision Date:	SDS Number:	Date of last issue: 04/22/2015
1.3	07/28/2015	833673-00004	Date of first issue: 11/26/2014

SECTION 1. IDENTIFICATION

Product name : DOW CORNING(R) 3145 RTV MIL-A-46146 ADHESIVE/SEALANT CLEAR

Product code : 000000000001610431

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road
Midland Michigan 48686

Telephone : (989) 496-6000

Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900
CHEMTREC : (800) 424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Electrical industry and electronics
Adhesive, binding agents

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Reproductive toxicity : Category 2

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Silicone elastomer

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (% w/w)
Hexamethyldisilazane reaction with Silica	68909-20-6	>= 20 - < 30
Methyltrimethoxysilane	1185-55-3	>= 5 - < 10
Methanol	67-56-1	>= 0.1 - < 1
Octamethylcyclotetrasiloxane	556-67-2	>= 0.1 - < 1
Dimethyldimethoxysilane	1112-39-6	>= 0.1 - < 1

SECTION 4. FIRST AID MEASURES

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

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

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

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

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

Most important symptoms and effects, both acute and delayed : Suspected of damaging fertility or the unborn child.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment

when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.

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

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

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

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.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and dis-

posal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	Use only with adequate ventilation.
Advice on safe handling	:	Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep away from water. Protect from moisture. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store in accordance with the particular national regulations.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hexamethyldisilazane reaction with Silica	68909-20-6	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3
Methyltrimethoxysilane	1185-55-3	TWA	50 ppm	DCC OEL
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1

Octamethylcyclotetrasiloxane	556-67-2	TWA	10 ppm	DCC OEL

Hazardous components without workplace control parameters

Ingredients	CAS-No.
Dimethyldimethoxysilane	1112-39-6

Occupational exposure limits of decomposition products

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1

Biological occupational exposure limits

Ingredients	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

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

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
Material : Impervious gloves

Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Eye protection	:	Wear the following personal protective equipment: Safety glasses
Skin and body protection	:	Skin should be washed after contact.
Hygiene measures	:	Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Color	:	white, translucent
Odor	:	slight
Odor Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Not classified as a flammability hazard
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	No data available

Relative density	:	1.12
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. When heated to temperatures above 180 °C (356 °F) in the presence of air, trace quantities of formaldehyde may be released. Adequate ventilation is required. See OSHA formaldehyde standard, 29 CFR 1910.1048 Hazardous decomposition products will be formed upon contact with water or humid air. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	:	Exposure to moisture.
Incompatible materials	:	Oxidizing agents Water
Hazardous decomposition products		
Contact with water or humid air	:	Methanol
Thermal decomposition	:	Formaldehyde

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on test data

Ingredients:

Hexamethyldisilazane reaction with Silica:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity Remarks: Based on data from similar materials

Methyltrimethoxysilane:

Acute oral toxicity	:	LD50 (Rat): 12.3 ml/kg Assessment: The substance or mixture has no acute oral toxicity Remarks: Information taken from reference works and the literature.
Acute inhalation toxicity	:	LC50 (Rat): > 42.1 mg/l Exposure time: 6 h Test atmosphere: vapor Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on test data
Acute dermal toxicity	:	LD50 (Rabbit): > 9,500 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on test data

Methanol:

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

Acute inhalation toxicity : Acute toxicity estimate: 3 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Expert judgment
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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

Octamethylcyclotetrasiloxane:

Acute oral toxicity : LD50 (Rat): > 4,800 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on test data

Acute inhalation toxicity : LC50 (Rat): 2975 ppm
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 2.5 ml/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

Dimethyldimethoxysilane:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg
Remarks: Based on test data

Acute inhalation toxicity : LC50 (Rat): > 4.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Skin corrosion/irritation

Not classified based on available information.

Product:

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

Ingredients:

Hexamethyldisilazane reaction with Silica:
Assessment: Repeated exposure may cause skin dryness or cracking.

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

Methanol:
Species: Rabbit
Result: No skin irritation

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

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

Serious eye damage/eye irritation

Not classified based on available information.

Product:

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

Ingredients:

Hexamethyldisilazane reaction with Silica:
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

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

Methanol:
Species: Rabbit
Result: No eye irritation

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

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

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Product:

Assessment: Does not cause skin sensitization.

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

Ingredients:

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

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

Methanol:
Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative

Octamethylcyclotetrasiloxane:
Assessment: Does not cause skin sensitization.

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

Germ cell mutagenicity

Not classified based on available information.

Product:

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

Ingredients:

Hexamethyldisilazane reaction with Silica:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

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

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)

Result: positive
Remarks: Based on test data

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

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

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

Methanol:

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

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

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

Octamethylcyclotetrasiloxane:

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

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

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

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

: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative
Remarks: Based on test data

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

Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on test data

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

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

Carcinogenicity

Not classified based on available information.

Ingredients:

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

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Ingredients:

Methyltrimethoxysilane:
Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female

Application Route: Ingestion
Symptoms: No effects on fertility.
Remarks: Based on test data

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

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

Methanol:

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

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

Octamethylcyclotetrasiloxane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat, male and female
Application Route: inhalation (vapor)
Symptoms: Effects on fertility.
Remarks: Based on test data

Effects on fetal development : Test Type: Prenatal development toxicity study (teratogenicity)
Species: Rabbit
Application Route: inhalation (vapor)
Symptoms: No effects on fetal development.
Remarks: Based on test data

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

Dimethyldimethoxysilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: Effects on fertility.
Remarks: Based on test data

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

STOT-single exposure

Not classified based on available information.

Ingredients:

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

STOT-repeated exposure

Not classified based on available information.

Ingredients:

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

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

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

Routes of exposure: inhalation (vapor)
Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

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

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

Repeated dose toxicity

Ingredients:

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

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

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

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

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

Species: Rabbit
Application Route: Skin contact
Remarks: Based on test data

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

Aspiration toxicity

Not classified based on available information.

Further information

Ingredients:

Octamethylcyclotetrasiloxane:
Remarks: Results from a 2 year repeated vapor inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 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.

Dimethyldimethoxysilane:
Remarks: 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.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Methyltrimethoxysilane:

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

Methanol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l Exposure time: 96 h Method: OPPTS 850.5400
Toxicity to fish (Chronic toxicity)	:	NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l Exposure time: 200 h
Toxicity to bacteria	:	EC50: 20,000 mg/l Exposure time: 15 h

Octamethylcyclotetrasiloxane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.022 mg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia sp.): > 0.015 mg/l Exposure time: 48 h Remarks: No toxicity at the limit of solubility.
Toxicity to algae	:	EC50: > 0.022 mg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility. NOEC: 0.022 mg/l Exposure time: 96 h Remarks: No toxicity at the limit of solubility.
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): >= 0.0044 mg/l Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 0.0079 mg/l Exposure time: 21 d Remarks: No toxicity at the limit of solubility.
Toxicity to bacteria	:	IC50: > 10,000 mg/l Method: ISO 8192
Ecotoxicology Assessment Chronic aquatic toxicity	:	May cause long lasting harmful effects to aquatic life.

Dimethyldimethoxysilane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 126 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 119 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 118 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to bacteria	:	EC50: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

Persistence and degradability

Ingredients:

Methyltrimethoxysilane:

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

Methanol:

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

Octamethylcyclotetrasiloxane:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 3.7 % Exposure time: 28 d Method: OECD Test Guideline 310
Stability in water	:	Degradation half life: 69.3 - 144 h (24.6 °C) pH: 7 Method: OECD Test Guideline 111

Dimethyldimethoxysilane:

Stability in water	:	Degradation half life: < 0.6 h pH: 7

Bioaccumulative potential

Ingredients:

Methyltrimethoxysilane:

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

Methanol:

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

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

Octamethylcyclotetrasiloxane:

Partition coefficient: n-octanol/water : log Pow: 6.48 (25.1 °C)

Mobility in soil

No data available

Other adverse effects

Ingredients:

Octamethylcyclotetrasiloxane:

Results of PBT and vPvB assessment : Remarks: Octamethylcyclotetrasiloxane (D4) meets the current REACh Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT criteria. However, D4 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Resource Conservation and Recovery Act (RCRA) : This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded in its purchased form.

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

Dimethyl siloxane, hydroxy-terminated	70131-67-8	50 - 70 %
Hexamethyldisilazane reaction with Silica	68909-20-6	20 - 30 %
Methyltrimethoxysilane	1185-55-3	5 - 10 %
Methanol	67-56-1	0.1 - 1 %

New Jersey Right To Know

Dimethyl siloxane, hydroxy-terminated	70131-67-8	50 - 70 %
Hexamethyldisilazane reaction with Silica	68909-20-6	20 - 30 %
Methyltrimethoxysilane	1185-55-3	5 - 10 %
Methanol	67-56-1	0.1 - 1 %

California Prop. 65 WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Methanol	67-56-1

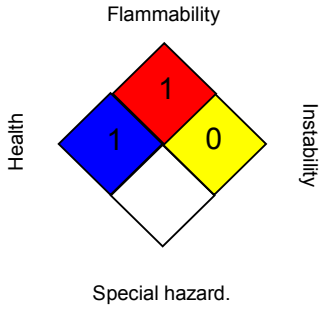
The ingredients of this product are reported in the following inventories:

NZIoC	:	All ingredients listed or exempt.
REACH	:	All ingredients (pre-)registered or exempt.
TSCA	:	All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
AICS	:	All ingredients listed or exempt.
IECSC	:	All ingredients listed or exempt.
ENCS/ISHL	:	All components are listed on ENCS/ISHL or exempted from inventory listing.
KECI	:	All ingredients listed, exempt or notified.
PICCS	:	All ingredients listed or exempt.
DSL	:	All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
TCSI	:	All ingredients listed or exempt.

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	0*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
DCC OEL	:	Dow Corning Guide
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
DCC OEL / TWA	:	Time weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date	:	07/28/2015

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

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

US / Z8