# SAFETY DATA SHEET

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

| Version | Revision Date: | SDS Number: | Date of last issue: 10/31/2016 |
|---|---|---|---|
| 5.0 | 03/10/2017 | 833575-00008 | Date of first issue: 11/26/2014 |

## SECTION 1. IDENTIFICATION

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

Product code : 000000000001059548

**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 : Adhesive, binding agents
Electrical industry and electronics

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with 29 CFR 1910.1200**

Reproductive toxicity : Category 2

**GHS label elements**

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H361f Suspected of damaging fertility.

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 | >= 18 - <= 28 |
| Methyltrimethoxysilane | 1185-55-3 | >= 5 - <= 8 |
| Titanium dioxide | 13463-67-7 | >= 1.1 - <= 1.5 |
| Octamethylcyclotetrasiloxane | 556-67-2 | >= 0.17 - <= 0.23 |
| Methanol | 67-56-1 | >= 0.12 - <= 0.16 |

## 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.

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.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Suspected of damaging fertility.

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)
Metal oxides

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

## 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.<br>Do not swallow.<br>Avoid contact with eyes.<br>Handle in accordance with good industrial hygiene and safety practice.<br>Keep away from water.<br>Protect from moisture.<br>Take care to prevent spills, waste and minimize release to the environment. |
| Conditions for safe storage | : | Keep in properly labeled containers.<br>Store in accordance with the particular national regulations. |
| Materials to avoid | : | Do not store with the following product types:<br>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 | 7.5 ppm | DCC OEL |
| Titanium dioxide | 13463-67-7 | TWA (total dust) | 15 mg/m³ | OSHA Z-1 |
| | | TWA | 10 mg/m³ (Titanium dioxide) | ACGIH |
| Octamethylcyclotetrasiloxane | 556-67-2 | TWA | 10 ppm | US WEEL |
| Methanol | 67-56-1 | TWA | 200 ppm | ACGIH |

| | | | | |
|---|---|---|---|---|
| | | STEL | 250 ppm | ACGIH |
| | | TWA | 200 ppm<br>260 mg/m³ | NIOSH REL |
| | | ST | 250 ppm<br>325 mg/m³ | NIOSH REL |
| | | TWA | 200 ppm<br>260 mg/m³ | OSHA Z-1 |

**These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.**

Hexamethyldisilazane reaction with Silica

Titanium dioxide

**Occupational exposure limits of decomposition products**

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

**Biological occupational exposure limits**

| Ingredients | CAS-No. | Control parameters | Biological specimen | Sam-pling time | Permissible concentra-tion | 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 : Chemical-resistant 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 : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

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 | : | gray |
| 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 |
| Self-ignition | : | The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating. |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability 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 |
| Particle size | : | 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.<br>Can react with strong oxidizing agents.<br>When heated to temperatures above 180 °C (356 °F) in the presence of air, trace quantities of formaldehyde may be re- |

leased.
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: > 200 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 data from similar materials

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

**Titanium dioxide:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): > 6.82 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Assessment: The substance or mixture has no acute inhalation toxicity |

**Octamethylcyclotetrasiloxane:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 4,800 mg/kg<br>Assessment: The substance or mixture has no acute oral toxicity<br>Remarks: On basis of test data. |
| Acute inhalation toxicity | : | LC50 (Rat): 2975 ppm<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Assessment: The substance or mixture has no acute inhalation toxicity<br>Remarks: On basis of test data. |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2.5 ml/kg<br>Assessment: The substance or mixture has no acute dermal toxicity<br>Remarks: On basis of test data. |

**Methanol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate (Humans): 300 mg/kg<br>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

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

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

**Ingredients:**

**Hexamethyldisilazane reaction with Silica:**

Assessment: Repeated exposure may cause skin dryness or cracking.

**Methyltrimethoxysilane:**

Species: Rabbit
Result: No skin irritation
Remarks: On basis of test data.

**Titanium dioxide:**

Species: Rabbit
Result: No skin irritation

**Octamethylcyclotetrasiloxane:**

Species: Rabbit
Result: No skin irritation
Remarks: On basis of test data.

**Methanol:**

Species: Rabbit
Result: No skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

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

**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: On basis of test data.

**Titanium dioxide:**

Species: Rabbit
Result: No eye irritation

**Octamethylcyclotetrasiloxane:**

Species: Rabbit
Result: No eye irritation
Remarks: On basis of test data.

**Methanol:**

Species: Rabbit
Result: No eye irritation

**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
Result: negative
Remarks: Based on data from similar materials

**Ingredients:**

**Methyltrimethoxysilane:**

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

Test Type: Buehler Test
Species: Guinea pig
Result: positive
Remarks: On basis of test data.

**Titanium dioxide:**

Test Type: Local lymph node assay (LLNA)
Routes of exposure: Skin contact
Species: Mouse
Result: negative

**Octamethylcyclotetrasiloxane:**

Assessment: Does not cause skin sensitization.

Test Type: Maximization Test
Species: Guinea pig
Result: negative
Remarks: On basis of test data.

**Methanol:**

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

**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 data from similar materials

**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: On basis of test data.

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: positive
Remarks: On basis of test data.

: Test Type: Chromosome aberration test in vitro
Result: positive
Remarks: On basis of test data.

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: On basis of test data.

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

**Titanium dioxide:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Result: negative

**Octamethylcyclotetrasiloxane:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: On basis of test data.

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: negative
Remarks: On basis of test data.

: Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: On basis of test data.

: Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative
Remarks: On basis of test data.

: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative
Remarks: On basis of test data.

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

Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: On basis of 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
Result: negative

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

**Carcinogenicity**

Not classified based on available information.

**Ingredients:**

**Titanium dioxide:**

Species: Rat
Application Route: inhalation (dust/mist/fume)
Exposure time: 24 Months
Method: OECD Test Guideline 453
Result: positive
Remarks: The mechanism or mode of action may not be relevant in humans.
These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

**Methanol:**

Species: Mouse
Application Route: inhalation (vapor)
Exposure time: 18 Months
Result: negative

**IARC** Group 2B: Possibly carcinogenic to humans

Titanium dioxide 13463-67-7

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**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.

**Ingredients:**

**Methyltrimethoxysilane:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat, male and female<br>Application Route: Ingestion<br>Symptoms: No effects on fertility.<br>Remarks: On basis of test data. |
| Effects on fetal development | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat, male and female<br>Application Route: Ingestion<br>Symptoms: No effects on fetal development.<br>Remarks: On basis of test data. |
| Reproductive toxicity - Assessment | : | No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. |

**Octamethylcyclotetrasiloxane:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat, male and female<br>Application Route: inhalation (vapor)<br>Symptoms: Effects on fertility.<br>Remarks: On basis of test data. |
| Effects on fetal development | : | Test Type: Prenatal development toxicity study (teratogenicity)<br>Species: Rabbit<br>Application Route: inhalation (vapor)<br>Symptoms: No effects on fetal development.<br>Remarks: On basis of test data. |
| Reproductive toxicity - Assessment | : | Some evidence of adverse effects on sexual function and fertility, based on animal experiments. |

**Methanol:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Fertility/early embryonic development<br>Species: Mouse<br>Application Route: Ingestion<br>Result: negative |
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Mouse<br>Application Route: Ingestion<br>Result: positive<br>Remarks: The effects were seen only at maternally toxic doses. |

**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.

**Repeated dose toxicity**

**Ingredients:**

**Methyltrimethoxysilane:**

Species: Rat
Application Route: inhalation (vapor)
Remarks: On basis of test data.

Species: Rat
Application Route: Ingestion
Remarks: On basis of test data.

**Titanium dioxide:**

Species: Rat
NOAEL: 24,000 mg/kg
Application Route: Ingestion
Exposure time: 28 Days

Species: Rat
NOAEL: 10 mg/m³
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 y
Remarks: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

**Octamethylcyclotetrasiloxane:**

Species: Rat
Application Route: Ingestion
Remarks: On basis of test data.

Species: Rat
Application Route: inhalation (vapor)
Remarks: On basis of test data.

Species: Rabbit
Application Route: Skin contact
Remarks: On basis of test data.

**Methanol:**

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

**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.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ingredients:**

**Methyltrimethoxysilane:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 110 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia sp. (Water flea)): > 122 mg/l<br>Exposure time: 48 h |
| Toxicity to algae | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 120 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC50: > 100 mg/l<br>Method: OECD Test Guideline 209 |

**Titanium dioxide:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h |
| Toxicity to algae | : | EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l<br>Exposure time: 72 h |
| Toxicity to microorganisms | : | EC50: > 1,000 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |

**Octamethylcyclotetrasiloxane:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Cyprinodon variegatus (sheepshead minnow)): > 0.0063 mg/l<br>Exposure time: 336 h<br>Remarks: No toxicity at the limit of solubility. |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Mysidopsis bahia (opossum shrimp)): > 0.0091 mg/l<br>Exposure time: 96 h<br>Remarks: No toxicity at the limit of solubility. |
| Toxicity to algae | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.022 mg/l<br>Exposure time: 72 h<br>Remarks: No toxicity at the limit of solubility. |
| Toxicity to fish (Chronic tox- | : | NOEC (Oncorhynchus mykiss (rainbow trout)): >= 0.0044 mg/l |

| | | |
|---|---|---|
| icity) | | Remarks: On basis of test data.<br>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<br>Exposure time: 21 d<br>Remarks: On basis of test data.<br>No toxicity at the limit of solubility. |

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Chronic aquatic toxicity | : | May cause long lasting harmful effects to aquatic life. |

**Methanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 10,000 mg/l<br>Exposure time: 48 h |
| Toxicity to algae | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l<br>Exposure time: 200 h |
| Toxicity to microorganisms | : | IC50: > 1,000 mg/l<br>Exposure time: 3 h |

**Persistence and degradability**

**Ingredients:**

**Octamethylcyclotetrasiloxane:**

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

**Methanol:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 95 %<br>Exposure time: 20 d |

**Bioaccumulative potential**

**Ingredients:**

**Methyltrimethoxysilane:**

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

**Octamethylcyclotetrasiloxane:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Pimephales promelas (fathead minnow)<br>Bioconcentration factor (BCF): 12,400 |
| Partition coefficient: n-octanol/water | : | log Pow: 6.48 (25.1 °C) |

**Methanol:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Leuciscus idus (Golden orfe)<br>Bioconcentration factor (BCF): < 10 |
| Partition coefficient: n-octanol/water | : | log Pow: -0.77 |

**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 Regulations**

**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 302 Extremely Hazardous Substances Threshold Planning Quantity**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Chronic Health Hazard

**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 |
| Hexamethyldisilazane reaction with Silica | 68909-20-6 |
| Methyltrimethoxysilane | 1185-55-3 |
| Titanium dioxide | 13463-67-7 |

Methanol 67-56-1

**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

**California Permissible Exposure Limits for Chemical Contaminants**

Titanium dioxide 13463-67-7

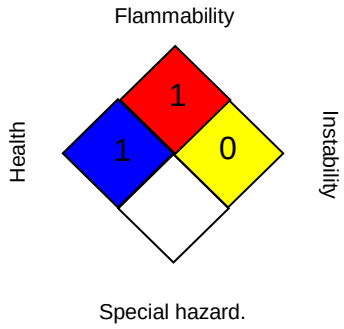
**The ingredients of this product are reported in the following inventories:**

| | | |
|---|---|---|
| NZIoC | : | All ingredients listed or exempt. |
| REACH | : | For purchases from Dow Corning EU legal entities, all ingredients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For purchases from non-EU Dow Corning legal entities with the intention to export into EEA please contact your DC representative/local office. |
| TSCA | : | All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption. |
| 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. |

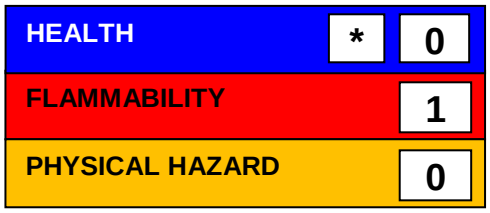
## SECTION 16. OTHER INFORMATION

### Further information

**NFPA:**




**HMIS® IV:**




HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### 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 |
| US WEEL | : | USA. Workplace Environmental Exposure Levels (WEEL) |
| 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 |
| US WEEL / TWA | : | Time weighted average |

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification 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; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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 : 03/10/2017

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

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

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