



SAFETY DATA SHEET

DOW SILICONES CORPORATION

Product name: DOWSIL™ 3145 RTV Mil-A-46146
Adhesive/Sealant Gray

Issue Date: 12/14/2023

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DOW SILICONES CORPORATION 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.

1. IDENTIFICATION

Product name: DOWSIL™ 3145 RTV Mil-A-46146 Adhesive/Sealant Gray

Recommended use of the chemical and restrictions on use

Identified uses: Adhesive, binding agents Electrical industry and electronics

COMPANY IDENTIFICATION

DOW SILICONES CORPORATION
2211 H.H. DOW WAY
MIDLAND MI 48674-0001
UNITED STATES

Customer Information Number:

800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Reproductive toxicity - Category 2

Label elements

Hazard pictograms



Signal word: WARNING!

Hazards

Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves, protective clothing, eye protection and/or face protection.

Response

IF exposed or concerned: Get medical advice/ attention.

Storage

Store locked up.

Disposal

Dispose of contents and/or container to an approved waste disposal plant.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone elastomer

This product is a mixture.

Component	CASRN	Concentration
Methyltrimethoxysilane	1185-55-3	>= 5.8 - <= 7.6 %
Octamethyl Cyclotetrasiloxane	556-67-2	>= 0.14 - <= 0.25 %
Methanol	67-56-1	>= 0.1 - <= 0.18 %

4. FIRST AID MEASURES

Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Wash off with plenty of water. 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: Rinse mouth with water. No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Suspected of damaging fertility or the unborn child.

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.

5. FIREFIGHTING MEASURES

Extinguishing media

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

Unsuitable extinguishing media: None known..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides.

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

Advice for firefighters

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

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

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: Do not release the product to the aquatic environment above defined regulatory levels. 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: 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, store recovered material in appropriate container.

See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Avoid contact with eyes. Do not swallow. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.

Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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
Methyltrimethoxysilane	Dow IHG	TWA	7.5 ppm
Octamethyl Cyclotetrasiloxane	US WEEL	TWA	10 ppm
Methanol	ACGIH	TWA	200 ppm
Further information: Skin: Danger of cutaneous absorption			
	ACGIH	STEL	250 ppm
Further information: Skin: Danger of cutaneous absorption			
	OSHA Z-1	TWA	260 mg/m3 200 ppm

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

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)	15 mg/l	ACGIH BEI

soon as
possible
after
exposure
ceases)

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).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	paste
Color	grey
Odor	slight
Odor Threshold	No data available
pH	Not applicable, substance/mixture is non-soluble (in water)
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)	1.12
Water solubility	insoluble
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.
Liquid Density	1.12 g/cm3
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.

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: 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.

Conditions to avoid: None known.

Incompatible materials: Avoid contact with oxidizing materials.

Hazardous decomposition products:

Decomposition products can include and are not limited to: Formaldehyde. Methanol.

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure

Eye contact, Skin contact, Ingestion.

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

Acute Toxicity Endpoints:

Not classified based on available information.

Acute oral toxicity

Information for the Product:

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

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

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

Information for components:

Methyltrimethoxysilane

LD50, Rat, male and female, 11,685 mg/kg

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

Octamethyl Cyclotetrasiloxane

LD50, Rat, male, > 4,800 mg/kg No deaths occurred at this concentration.

Methanol

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart. Effects may be delayed. LD50, Rat, > 5,000 mg/kg

Lethal Dose, Humans, 340 mg/kg Estimated.

Lethal Dose, Humans, 29 - 237 ml Estimated.

Acute dermal toxicity

Information for the Product:

For similar material(s):
LD50, Rat, > 2,000 mg/kg
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Information for components:

Methyltrimethoxysilane

LD50, Rabbit, male and female, > 9,500 mg/kg OECD 402 or equivalent

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

Octamethyl Cyclotetrasiloxane

LD50, Rat, male and female, > 2,400 mg/kg No deaths occurred at this concentration.

Methanol

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

Acute inhalation toxicity

Information for the Product:

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material may cause respiratory irritation.

As product: The LC50 has not been determined.

Information for components:

Methyltrimethoxysilane

LC50, Rat, male and female, 6 Hour, vapour, > 7605 ppm OECD Test Guideline 403

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

Octamethyl Cyclotetrasiloxane

LC50, Rat, male and female, 4 Hour, dust/mist, 36 mg/l OECD Test Guideline 403

Methanol

Easily attainable vapor concentrations may cause serious adverse effects, even death. At lower concentrations: May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death. Effects may be delayed.

LC50, Rat, 4 Hour, vapour, 3 mg/l

Skin corrosion/irritation

Not classified based on available information.

Information for the Product:

For similar material(s):

Brief contact may cause slight skin irritation with local redness.

Information for components:

Methyltrimethoxysilane

Brief contact may cause slight skin irritation with local redness.

Octamethyl Cyclotetrasiloxane

Brief contact is essentially nonirritating to skin.

Methanol

Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

Not classified based on available information.

Information for the Product:

For similar material(s):

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Information for components:

Methyltrimethoxysilane

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Octamethyl Cyclotetrasiloxane

Essentially nonirritating to eyes.

Methanol

May cause eye irritation.

Sensitization

For skin sensitization:

Not classified based on available information.

For respiratory sensitization:

Not classified based on available information.

Information for the Product:

Based on data from similar materials

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Information for components:

Methyltrimethoxysilane

For skin sensitization:

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

Octamethyl Cyclotetrasiloxane

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Methanol

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Not classified based on available information.

Information for the Product:

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Methyltrimethoxysilane

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Octamethyl Cyclotetrasiloxane

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Methanol

Causes damage to organs.

Target Organs: Eyes, Central nervous system

Aspiration Hazard

Not classified based on available information.

Information for the Product:

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

Information for components:

Methyltrimethoxysilane

Material is not classified as an aspiration hazard based on insufficient data, however materials with low viscosity may be aspirated into the lungs during ingestion or vomiting.

Octamethyl Cyclotetrasiloxane

Material is not classified as an aspiration hazard based on insufficient data, however materials with low viscosity may be aspirated into the lungs during ingestion or vomiting.

Methanol

May be harmful if swallowed and enters airways.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Methyltrimethoxysilane

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Octamethyl Cyclotetrasiloxane

In animals, effects have been reported on the following organs:

Kidney.

Liver.

Respiratory tract.

Female reproductive organs.

Methanol

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

Carcinogenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Methyltrimethoxysilane

No relevant data found.

Octamethyl Cyclotetrasiloxane

Results from a 2 year repeated vapour 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.

Methanol

Did not cause cancer in laboratory animals.

Teratogenicity

Suspected of damaging fertility or the unborn child.

Information for the Product:

Product test data not available.

Information for components:

Methyltrimethoxysilane

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

Octamethyl Cyclotetrasiloxane

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

Methanol

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

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Information for the Product:

Product test data not available.

Information for components:

Methyltrimethoxysilane

In animal studies, did not interfere with reproduction.

Octamethyl Cyclotetrasiloxane

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. In animal studies, has been shown to interfere with fertility.

Methanol

In animal studies, did not interfere with reproduction.

Mutagenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Methyltrimethoxysilane

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

Octamethyl Cyclotetrasiloxane

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

Methanol

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

12. ECOLOGICAL INFORMATION

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

Toxicity

Methyltrimethoxysilane

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), flow-through, 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

No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), Static, 72 Hour, Growth rate inhibition,
> 3.6 mg/l, OECD Test Guideline 201
No toxicity at the limit of solubility
NOEC, Pseudokirchneriella subcapitata (green algae), Static, 72 Hour, Growth rate inhibition,
>= 3.6 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC10, activated sludge, Static, 3 Hour, Respiration rates., > 100 mg/l, OECD Test Guideline
209

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, >= 10 mg/l

Octamethyl Cyclotetrasiloxane

Acute toxicity to fish

Based on testing of comparable products: The estimated maximum aqueous concentration of Octamethyl Cyclotetrasiloxane (D4) from migration to water from the product as supplied is below the D4 established no-effect threshold (< 0.0079 mg/L) for aquatic organisms.

Chronic toxicity to aquatic invertebrates

Based on testing for product(s) in this family of materials:
Not classified due to data which are conclusive although insufficient for classification.

Methanol

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Bluegill sunfish (*Lepomis macrochirus*), flow-through test, 96 Hour, 15,400 mg/l

Acute toxicity to aquatic invertebrates

LC50, *Daphnia magna* (Water flea), 48 Hour, > 10,000 mg/l

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, Growth rate, 22,000 mg/l,
OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

IC50, activated sludge, 3 Hour, Respiration rates., > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to fish

NOEC, *Oryzias latipes* (Orange-red killifish), 200 Hour, 15,800 mg/l

Persistence and degradability

Methyltrimethoxysilane

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation: 54 %

Exposure time: 28 d

Method: Regulation (EC) No. 440/2008, Annex, C.4-A

Octamethyl Cyclotetrasiloxane

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Not applicable

Biodegradation: 3.7 %

Exposure time: 28 d

Method: OECD Test Guideline 310

Stability in Water (1/2-life)

Hydrolysis, DT50, 3.9 d, pH 7, Half-life Temperature 25 °C, OECD Test Guideline 111

Methanol

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

Theoretical Oxygen Demand: 1.50 mg/mg

Chemical Oxygen Demand: 1.49 mg/mg Dichromate

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	72 %
20 d	79 %

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals

Atmospheric half-life: 8 - 18 d

Method: Estimated.

Bioaccumulative potential

Methyltrimethoxysilane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.82 Estimated.

Octamethyl Cyclotetrasiloxane

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 6.49 Measured

Bioconcentration factor (BCF): 12,400 *Pimephales promelas* (fathead minnow) Measured

Methanol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.77 Measured

Bioconcentration factor (BCF): < 10 *Leuciscus idus* (Golden orfe) Measured

Mobility in soil

Methyltrimethoxysilane

No relevant data found.

Octamethyl Cyclotetrasiloxane

Partition coefficient (Koc): 16596 OECD Test Guideline 106

Methanol

Partition coefficient (Koc): 0.44 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION 1: Identified Uses. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code

Not regulated for transport

Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

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.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Reproductive toxicity

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 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.

Pennsylvania Right To Know

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components

Polydimethylsiloxane hydroxy-terminated
Hexamethyldisilazane reaction with Silica
Methyltrimethoxysilane
Titanium dioxide

CASRN

70131-67-8
68909-20-6
1185-55-3
13463-67-7

California Prop. 65

WARNING: This product can expose you to chemicals including Methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Flammability	Instability
1	1	0

HMIS

Health	Flammability	Physical Hazard
1*	1	0

* = Chronic Effects (See Hazards Identification)

Revision

Identification Number: 99180935 / A713 / Issue Date: 12/14/2023 / Version: 15.0

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

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)

Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short-term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; 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; TECI - Thailand Existing Chemicals 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

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 SILICONES CORPORATION 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.

US

LIM-BK1

SAFETY DATA SHEET

1. Identification

Product identifier: LIM-BK1

Other means of identification

Synonyms: Filled Polymethylvinylsiloxane, Black

Recommended use and restriction on use

Recommended use: Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information : Momentive Performance Materials LLC
260 Hudson River Road
Waterford NY 12188

Contact person : commercial.services@momentive.com

Telephone : General information
+1-800-295-2392

Emergency telephone number
Supplier : CHEMTREC
1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Toxic to reproduction

Category 2

Label Elements

Hazard Symbol:



Signal Word: Warning

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Hazard Statement: Suspected of damaging fertility or the unborn child.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*	Notes
Octamethylcyclotetrasiloxane	556-67-2	0.1 - <1%	No data available.

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: If swallowed, do NOT induce vomiting. Give a glass of water. Do not give victim anything to drink if he is unconscious. Get medical attention if any discomfort continues.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

Skin Contact: Wash area with soap and water.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Most important symptoms/effects, acute and delayed

Symptoms: Treatment is symptomatic and supportive.

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Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: All standard extinguishing agents are suitable.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: In case of fire, carbon monoxide and carbon dioxide may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid contact with skin and eyes. Keep out of reach of children. Attention: Not for injection into humans.

Methods and material for containment and cleaning up: Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard.

Environmental Precautions: Prevent runoff from entering drains, sewers, or streams.

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7. Handling and storage

Precautions for safe handling: Sensitivity to static discharge is not expected.

Conditions for safe storage, including any incompatibilities: Keep away from heat, sparks and open flame. Keep container closed.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Eye wash facilities and emergency shower must be available when handling this product. Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

Individual protection measures, such as personal protective equipment

General information: Eyewash bottle with clean water. Use only in well-ventilated areas. Do not eat, drink or smoke when using the product. Wash hands after handling.

Eye/face protection: Safety glasses with side shields

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing and eye/face protection. Wear suitable protective clothing and eye/face protection.

Respiratory Protection: If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

Hygiene measures: No data available.

9. Physical and chemical properties

Appearance

Physical state: solid

Form: solid

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Color:	Black
Odor:	Odorless
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	260.00 °C
Flash Point:	177 °C
Evaporation rate:	Negligible
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Heat of combustion:	No data available.
Vapor pressure:	Negligible
Vapor density:	No data available.
Density:	1.5 g/cm3 (20 °C)
Relative density:	1.50
Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
VOC:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No data available.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.

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Conditions to avoid:	None known.
Incompatible Materials:	None known.
Hazardous Decomposition Products:	Carbon dioxide Silicon dioxide. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	Not classified for acute toxicity based on available data.
Dermal	
Product:	Not classified for acute toxicity based on available data.
Inhalation	
Product:	Not classified for acute toxicity based on available data.

Repeated dose toxicity	
Product:	No data available.

Skin Corrosion/Irritation	
Product:	No data available.

Serious Eye Damage/Eye Irritation

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Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

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Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil:

No data available.

Known or predicted distribution to environmental compartments

Octamethylcyclotetrasiloxane
No data available.

Other adverse effects:

No data available.

13. Disposal considerations

Disposal instructions:

Disposal should be made in accordance with federal, state and local regulations.

Contaminated Packaging:

Dispose of as unused product.

14. Transport information

DOT

Not regulated.

SDS_US

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IMDG

Not regulated.

IATA

Not regulated.

Special precautions for user:

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods. Keep away from foodstuffs and animal feed.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Chronic Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity

Threshold Planning Quantity

Octamethylcyclotetrasiloxane
ne

10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

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US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Vinylpolydimethylsiloxane

Iron oxide

Octamethylcyclotetrasiloxane

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

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Inventory Status:

Australia AICS:	y (positive listing)	Remarks: None.
EU EINECS List:	y (positive listing)	Remarks: None.
Japan (ENCS) List:	y (positive listing)	Remarks: None.
China Inventory of Existing Chemical Substances:	y (positive listing)	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	y (positive listing)	Remarks: None.
Canada DSL Inventory List:	y (positive listing)	Remarks: None.
Canada NDSL Inventory:	n (Negative listing)	Remarks: None.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: On TSCA Inventory
Taiwan. Taiwan inventory (CSNN):	y (positive listing)	Remarks: None.

16.Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	0
Flammability		1
Physical Hazards		0
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 02/01/2017

Revision Date: No data available.

Version #: 1.5

Further Information: No data available.

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Disclaimer:

Notice to reader

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives. Keep out of the reach of children.

Further Information

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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