

GE5100

SAFETY DATA SHEET

1. Identification

Product identifier: GE5100

Other means of identification

Synonyms: Silicone Rubber Sealant

Recommended use and restriction on use

Recommended use: Industrial use

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information : Momentive Performance Materials - Daytona
703 South Street
New Smyrna Beach FL 32168

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

Skin sensitizer	Category 1
Toxic to reproduction	Category 1B

Label Elements

Hazard Symbol:



Signal Word: Danger

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Hazard Statement: H317; May cause an allergic skin reaction.
H360Df; May damage the unborn child. Suspected of damaging fertility.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use personal protective equipment as required. Wear protective gloves/protective clothing/eye protection/face protection.

Response: Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. 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.

Hazard(s) not otherwise classified (HNOC): None.

Substance(s) formed under the conditions of use: Generates methanol during cure.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*	Notes
Silane, dichlorodimethyl-, reaction products with silica	68611-44-9	10 - <20%	# This substance has workplace exposure limit(s).
Octamethylcyclotetrasiloxane	556-67-2	1 - <3%	# This substance has workplace exposure limit(s).
Hexamethyldisilazane	999-97-3	1 - <5%	No data available.
DIBUTYL TIN BIS ACETYLACETONATE	22673-19-4	0.3 - <1%	# This substance has workplace exposure limit(s).

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

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(1) The respirable particle(s) listed above are inextricably bound within the polymer matrix, and therefore does not present an inhalation hazard during normal use of this product. Tooling or machining of the cured product (sanding, cutting, milling) may release hazardous, respirable substances.

4. First-aid measures

General information:	No action shall be taken involving any personal risk or without suitable training.
Ingestion:	If swallowed, do NOT induce vomiting. Give a glass of water.
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:	To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. If skin irritation occurs: Get medical advice/attention.
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:	None known.
Hazards:	No data available.
Indication of immediate medical attention and special treatment needed	
Treatment:	This product reacts with moisture in the acid contents of the stomach to form methanol.

5. Fire-fighting measures

General Fire Hazards:	Use standard firefighting procedures and consider the hazards of other involved materials. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
Suitable (and unsuitable) extinguishing media	
Suitable extinguishing media:	All standard extinguishing agents are suitable.
Unsuitable extinguishing media:	water jet
Specific hazards arising from the chemical:	Reacts with water liberating small amounts of methanol. In case of fire, carbon monoxide and carbon dioxide may be formed.

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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:

Use only in well-ventilated areas. Avoid contact with skin and eyes. Keep out of reach of children. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the finger and hands. Keep away from heat, sparks and open flame. Product releases methanol during application and curing.

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. Wear proper protective equipment as specified in the protective equipment section.

7. Handling and storage

Precautions for safe handling:

Sensitivity to static discharge is not expected. Methanol is formed during processing. Wear appropriate personal protective equipment. Use only in well-ventilated areas. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Keep containers tightly closed. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities:

No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Silane, dichlorodimethyl-, reaction products with silica	TWA	0.8 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Silane, dichlorodimethyl-, reaction products with silica - Particulate.	ST ESL	27 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
Octamethylcyclotetrasiloxane	TWA	5 ppm	
Octamethylcyclotetrasiloxane - Vapor.	ST ESL	1,000 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)

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	AN ESL	100 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
Octamethylcyclotetrasiloxane	TWA	10 ppm	US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended (2014)
DIBUTYL TIN BIS ACETYLACETONATE - as Sn	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2015)
	TWA	0.1 mg/m3	US. ACGIH Threshold Limit Values, as amended (03 2015)
	REL	0.1 mg/m3	US. NIOSH. Pocket Guide to Chemical Hazards, as amended (2010)
	PEL	0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	0.1 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	0.1 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
DIBUTYL TIN BIS ACETYLACETONATE - Particulate.	AN ESL	0.1 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	ST ESL	1 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
DIBUTYL TIN BIS ACETYLACETONATE - as Sn	TWA PEL	0.1 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
	STEL	0.2 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
DIBUTYL TIN BIS ACETYLACETONATE	IDLH	25 mg/m3	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)

This product contains one or more substances with an occupational exposure limit. However, the respirable particle(s) of this/these substance(s) are inextricably bound within the polymer matrix. Therefore, we do not expect an exposure to this/these substance(s) during normal use of this product. Tooling or machining of the cured product (sanding, cutting, milling) may release hazardous, respirable substances.

Appropriate Engineering Controls

Use only in well-ventilated areas.

Individual protection measures, such as personal protective equipment

General information: Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

Eye/face protection: Safety glasses with side shields

Skin Protection

Hand Protection: Cloth gloves.

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

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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: Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state: solid
Form: Paste
Color: Colorless

Odor: amine like
Odor threshold: No data available.
pH: Not applicable

Melting point/freezing point: Not applicable
Initial boiling point and boiling range: Not applicable
Flash Point: Not applicable
Evaporation rate: No data available.
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: Not applicable

Vapor density: No data available.
Density: 1.027 g/cm³
Relative density: 1.02

Solubility(ies)
Solubility in water: Insoluble
Solubility (other): Soluble in toluene

Partition coefficient (n-octanol/water) Log No data available.

Pow:

Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
SADT: No data available.

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Viscosity, dynamic: No data available.
Viscosity, kinematic: No data available.
VOC: 33 g/l ;

10. Stability and reactivity

Reactivity: No dangerous reaction if used as recommended.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: None known.

Incompatible Materials: None known.

Hazardous Decomposition Products: Carbon dioxide Formaldehyde. Ammonia. Silicon dioxide.

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: ATEmix : 60,337.06 mg/kg

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Specified substance(s):

Octamethylcyclotetrasiloxane LD 50 (Rat): > 4,800 mg/kg

Hexamethyldisilazane LD 50 (Rat): 870 mg/kg

Dermal

Product:

ATEmix : 20,805.88 mg/kg

Specified substance(s):

Octamethylcyclotetrasiloxane LD 50 (Rat): > 2,375 mg/kg

Inhalation

Product:

ATEmix : 762.88 mg/l

Specified substance(s):

Octamethylcyclotetrasiloxane LC50 (Rat): 36 mg/l

Repeated dose toxicity

Product:

No data available.

Skin Corrosion/Irritation

Product:

No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) (Rabbit): Slightly irritating.

Serious Eye Damage/Eye Irritation

Product:

No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane OECD-Guideline 405 (Acute Eye Irritation/Corrosion) (Rabbit): Non irritating

Respiratory or Skin Sensitization

Product:

No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane Maximisation Test, OECD-Guideline 406 (Skin Sensitisation) (Guinea Pig): Not sensitizing

Carcinogenicity

Product:

No data available.

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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), as amended:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane
Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic)
Mouse Lymphoma Assay (OECD Guideline 476): negative (not mutagenic)

In vivo

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane
Chromosomal aberration (OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)) Inhalation (Rat, male and female): negative

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.

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Other effects:

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive. Additional information on the toxicological effects of this material or its ingredients can be found in Section 11 - Toxicological Information.

,Ammonia released during curing. Octamethylcyclotetrasiloxane
Ingestion: Rodents given large doses via oral gavages of Octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size).

Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents.

Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) with Octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found.

Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300ppm dosing levels.

Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group.

These results have been shown to be rat-specific. Further studies are ongoing.

In developmental toxicity studies, rats and rabbits were exposed to Octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study.

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12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

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.

Specified substance(s):

Octamethylcyclotetrasiloxane 3.7 % (29 d, 310 Ready Biodegradability - CO₂ in Sealed Vessels (Headspace Test)) Not readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Octamethylcyclotetrasiloxane Fathead Minnow, Bioconcentration Factor (BCF): 12.40

Partition Coefficient n-octanol / water (log K_{ow})

Product: No data available.

Specified substance(s):

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Hexamethyldisilazane Log Kow: Not applicable

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Silane, dichlorodimethyl-, reaction products with silica	No data available.
Octamethylcyclotetrasiloxane	No data available.
Hexamethyldisilazane	No data available.
DIBUTYL TIN BIS	No data available.
ACETYLACETONATE	

Other adverse effects: No data available.

13. Disposal considerations

General information: The generation of waste should be avoided or minimized wherever possible. See Section 8 for information on appropriate personal protective equipment. Do not discharge into drains, water courses or onto the ground.

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.

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.

15. Regulatory information

US Federal Regulations

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

Chemical Identity

Reportable quantity

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Octamethylcyclotetrasiloxane The minimum concentration: TSCA 4: 1.0%
One-Time Export Notification only.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

<u>Chemical Identity</u>	<u>OSHA hazard(s)</u>
METHYLPOLYSILOXAN E	No OSHA Hazards
SILOXANES AND SILICONES, DI-ME	No OSHA Hazards
Silane, dichlorodimethyl-, reaction products with silica	No OSHA Hazards
Siloxanes and Silicones, di-Me, polymers with Me silsesquioxanes, hydroxy-terminated	No OSHA Hazards
Octamethylcyclotetrasiloxane	Systemic effects
Hexamethyldisilazane	Toxic by ingestion; Toxic by skin absorption; Corrosive to eyes; Toxic by inhalation.
Methyltrimethoxysilane	Causes mild skin irritation.

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

Respiratory or Skin Sensitization
Reproductive toxicity

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

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
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US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

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.

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

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 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.

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

Chemical Identity

METHYLPOLYSILOXANE

SILOXANES AND SILICONES, DI-ME

Silane, dichlorodimethyl-, reaction products with silica

Siloxanes and Silicones, di-Me, polymers with Me silsesquioxanes, hydroxy-terminated

Hexamethyldisilazane

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:	n (negative listing)	Remarks: None.
Japan (ENCS) List:	n (negative listing)	Remarks: None.
China Inventory of Existing Chemical Substances:	n (negative listing)	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	n (negative listing)	Remarks: None.
Canada DSL Inventory List:	y (positive listing)	Remarks: None.
Canada NDSL Inventory:	n (negative listing)	Remarks: None.
Philippines PICCS:	n (negative listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: On TSCA Inventory
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory.	Remarks: None.

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

HMIS Hazard ID

Health	*	2
Flammability		0
Physical Hazards		1
PERSONAL PROTECTION		

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

Issue Date: 04/07/2021

Revision Date: No data available.

Version #: 3.1

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 safehandling, 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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