



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	GEC - 5
<b>Other means of identification</b>	
<b>Sales Code</b>	1633S0
<b>Recommended use</b>	Fluids, Modified silicone fluids Cleaning agent , Dispersant , Paint additive
<b>Recommended restrictions</b>	Industrial use only.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Name</b>	Shin-Etsu Silicones of America, Inc.
<b>Address</b>	1150 Damar Drive, Akron, OH 44305 USA
<b>Contact</b>	Regulation compliance group
<b>Telephone Number</b>	+1-330-630-9860
<b>Fax Number</b>	+1-330-630-9855
<b>Emergency Phone Number</b>	Chemtrec: +1-800-424-9300 (Within US) Chemtrec: +1-703-527-3887 (Outside US)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 4
<b>Health hazards</b>	Not classified.	
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	
*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".		
<b>Label elements</b>		
<b>Hazard symbol</b>	None.	
<b>Signal word</b>	Warning	
<b>Hazard statement</b>	Combustible liquid.	
<b>Precautionary statement</b>		
<b>Prevention</b>	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/protective clothing/eye protection/face protection.	
<b>Response</b>	In case of fire : Use water fog, foam, dry chemical powder or carbon dioxide(CO2) to extinguish.	
<b>Storage</b>	Store in a well-ventilated place. Keep cool.	
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.	
<b>Supplemental information</b>	None.	
<b>HMIS® ratings</b>	Health: 1 Flammability: 2 Physical hazard: 0	

## 3. Composition/information on ingredients

<b>Substances</b>			
<b>Chemical name</b>	<b>Common name and synonyms</b>	<b>CAS number</b>	<b>%</b>
Decamethylcyclopentasiloxane		541-02-6	100

## 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash skin with soap and water. Get medical attention if irritation develops and persists.

Material name: GEC - 5

SDS US

1633S0 Version #: 02 Revision date: 10-17-2018 Issue date: 12-03-2014

1 / 7

<b>Eye contact</b>	Rinse immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	By heating and fire, harmful vapors/gases may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Ensure adequate ventilation. Wear appropriate personal protective equipment.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills in original containers for re-use.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Provide adequate ventilation. Use care in handling/storage. Keep away from open flames, hot surfaces and sources of ignition. Do not smoke. Do not breathe mist or vapor. Avoid prolonged exposure.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep away from heat, sparks and open flame. Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight. Keep in original container. Store away from incompatible materials (see Section 10 of the SDS).

### 8. Exposure controls/personal protection

#### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Material	Type	Value
Decamethylcyclopentasiloxane (CAS 541-02-8)	TWA	10 ppm

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Explosion-proof general and local exhaust ventilation. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Tightly sealed safety glasses according to EN 166.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear protective gloves.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

---

**9. Physical and chemical properties**


---

**Appearance**

<b>Form</b>	Liquid.
<b>Color</b>	Colorless. Clear.
<b>Odor</b>	Slight odor.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not measurable (Refer to water solubility)
<b>Melting point/freezing point</b>	-36.4 °F (-38 °C)
<b>Initial boiling point and boiling range</b>	410 °F (210 °C)
<b>Flash point</b>	180.9 °F (82.7 °C) ASTM D 3828-87
<b>Evaporation rate</b>	< 1 (Butyl Acetate=1)
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	0.45 % v/v measured at 443.15K (ASTM E 681-94)
<b>Flammability limit - upper (%)</b>	13.21 % v/v measured at 443.15K (ASTM E 681-94)
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	33.2 Pa ( 25 °C )
<b>Vapor density</b>	> 1 (air=1)
<b>Relative density</b>	0.96 ( 25 °C )
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	17 µg/l
<b>Partition coefficient (n-octanol/water)</b>	8.02 ( 25.3 °C )
<b>Auto-ignition temperature</b>	701.6 °F (372 °C) 101.3 kPa (ASTM E 568-78)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	3.7 mm <sup>2</sup> /s ( 25 °C )
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Molecular weight</b>	370.8
<b>Oxidizing properties</b>	Not oxidizing.

---

**10. Stability and reactivity**


---

<b>Reactivity</b>	No hazardous reaction known under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Stable at normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	None known.



<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**  
Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
Decamethylcyclopentasiloxane (CAS 541-02-6)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg bw/day (comparable to OECD 402)
<b>Inhalation</b>		
LC50	Rat	8670 mg/m <sup>3</sup> (comparable to OECD 403)
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg (comparable to the now deleted OECD 401)
<u>Chronic</u>		
<b>Inhalation</b>		
NOAEC	Rat	>= 160 ppm, 2 years (equivalent to OECD 453)
<u>Subacute</u>		
<b>Dermal</b>		
NOAEL	Rat	>= 1600 mg/kg, 28 days (equivalent or similar to OECD 410)
<u>Subchronic</u>		
<b>Oral</b>		
NOAEL	Rat	>= 1000 mg/kg bw/day, 90 days (OECD 408)

**Skin corrosion/irritation** Not irritating, Skin-Rabbit: Primary dermal irritation index = 0.

**Serious eye damage/eye irritation** Not irritating, Eye-Rabbit: Overall irritation score: 0 of max. 0

#### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	Not sensitizing (LLNA).

**Germ cell mutagenicity** Bacterial reverse mutation assay: Negative (OECD 471).  
Cytogenicity in mammalian cells: Negative in Chinese hamster V79 cells (OECD 473).  
Mutagenicity in mammalian cells: Negative in L5178Y mouse lymphoma cells (similar to OECD TG 476).  
Micronucleus Test (Rat): Negative (OECD 474).  
Unscheduled DNA synthesis (rats): Negative (OECD 486).

**Carcinogenicity** No carcinogenic effects relevant to humans in a two-year inhalation combined chronic toxicity and carcinogenicity study in rats. (EPA OPPTS 870.4300)

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

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

Not listed.

<b>Reproductive toxicity</b>	NOAEL (P): $\geq 160$ ppm, NOAEL (F1): $\geq 160$ ppm, NOAEL (F2) : $> 160$ ppm (Two-generation reproductive toxicity study, EPA OPPTS 870.3800 and EPA OPP 83-8).
<b>Specific target organ toxicity - single exposure</b>	Not classified for specific target organ toxicity - single exposure, based on the available data.
<b>Specific target organ toxicity - repeated exposure</b>	Repeated inhalation or oral exposure of mice and rats to decamethylcyclotrisiloxane produced an increase in liver size. No gross histopathological or significant clinical chemistry effects were observed. An increase in liver metabolizing enzymes, as well as a transient increase in the number of normal cells (hyperplasia) followed by an increase in cell size (hypertrophy) were determined to be the underlying causes of the liver enlargement. The biochemical mechanisms producing these effects are highly sensitive in rodents, while similar mechanisms in humans are insensitive.
<b>Aspiration hazard</b>	Not available.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

**12. Ecological information****Ecotoxicity**

Product	Species		Test Results
Decamethylcyclopentasiloxane (CAS 541-02-8)			
Aquatic			
Algae	EC50	Pseudokirchneriella subcapitata	> 12 µg/l, 72 hr
	NOEC	Pseudokirchneriella subcapitata	> 12 µg/l
Crustacea	EC50	Daphnia magna	> 2.9 µg/l, 48 hr
	NOEC	Daphnia magna	>= 15 µg/l, 21 day study : reproduction and growth
Fish	LC50	Oncorhynchus mykiss	> 16 µg/l, 96 hr
	NOEC	Oncorhynchus mykiss	>= 14.4 µg/l, 90 day study: fish early life-stages

**Persistence and degradability** Not available.**Photolysis****Half-life (Photolysis-atmospheric)**

10.4 days, indirect photolysis

**Hydrolysis****Half-life (Hydrolysis)**

73.4 days ( pH 7 and 25 °C )

**Biodegradability****Percent degradation (Aerobic biodegradation-ready)**

OECD 301, Not readily biodegradable.

**Percent degradation (Aerobic biodegradation-soil)**

0.08 days Half-life in soil, at 22°C in tropical Wahiawa soil in closed system

**Bioaccumulative potential**

The substance does not biomagnify in food-webs.

Trophic Magnification Factor (TMF)  $< 1$  (field studies)**Partition coefficient n-octanol / water (log Kow)**

8.02 ( 25.3 °C )

**Bioconcentration factor (BCF)**

16200 lipid-normalized, kinetic

Species: Pimephales promelas

**Mobility in soil****Adsorption****Soil/sediment sorption - log Kd**

5.34, average

**Soil/sediment sorption - log Koc**

5.17, average

**Mobility in general****Volatility****Henry's law**

3.13, indicating high potential of volatilization from water.

**Other adverse effects**

Not available.

**13. Disposal considerations****Disposal instructions**

Follow applicable Federal, State and Local regulations.

**14. Transport information****DOT**

<b>UN number</b>	NA1993
<b>UN proper shipping name</b>	Combustible liquid, n.o.s. (Decamethylcyclopentasiloxane)
<b>Transport hazard class(es)</b>	
<b>Class</b>	Combustible liq
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	None
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	IB3, T1, T4, TP1
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

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

This product is not intended to be transported in bulk.

**DOT****15. Regulatory information****US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 313 (TRI reporting)**

**US state regulations**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Decamethylcyclopentasiloxane (CAS 541-02-6)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

<b>Issue date</b>	12-03-2014
<b>Revision date</b>	10-17-2018
<b>Version #</b>	07
<b>HMIS® ratings</b>	Health: 1 Flammability: 2 Physical hazard: 0
<b>NFPA ratings</b>	Health: 1 Flammability: 2 Instability: 0
<b>NFPA ratings</b>	

**Disclaimer**

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

This product has been designed, manufactured and developed solely for general industrial use only. This product is not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of this product for any application, to make preliminary tests, and to confirm the safety of this product for their use. Users must never use this product for the purpose of implantation into the human body and/or injection into humans.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.

Also identified by manufacturer as KF-995