



# SILANOL TERMINATED POLYDIMETHYLSILOXANE

## Safety Data Sheet DMS-S14

Issue date: 10/27/2014

Revision date: 05/03/2023

Version: 4.1

## SECTION 1: Identification

### 1.1. Identification

Product name	: SILANOL TERMINATED POLYDIMETHYLSILOXANE
Product code	: DMS-S14
Product form	: Substance
Physical state	: Liquid
Synonyms	: HYDROXY TERMINATED POLYDIMETHYLSILOXANE
Chemical family	: ORGANOSILOXANE

### 1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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### 1.3. Supplier

#### GELEST, INC.

11 East Steel Road  
Morrisville, PA 19067

#### USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

### 1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

#### GHS US classification

Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Hazardous to the aquatic environment – Chronic	H412	Harmful to aquatic life with long lasting effects
Hazard Category 3		
Full text of H statements : see section 16		

### 2.2. GHS Label elements, including precautionary statements

#### GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: H361 - Suspected of damaging fertility or the unborn child  
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P405 - Store locked up.  
P501 - Dispose of contents/container to licensed waste disposal facility..

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### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Polymer  
Name : SILANOL TERMINATED POLYDIMETHYLSILOXANE  
CAS-No. : 70131-67-8

Name	Product identifier	%	GHS US classification
Silanol terminated polydimethylsiloxane	CAS-No.: 70131-67-8	> 95	Not classified
Decamethylcyclopentasiloxane	CAS-No.: 541-02-6	1.1 – 1.8	Flam. Liq. 4, H227
Octamethylcyclotetrasiloxane	CAS-No.: 556-67-2	1.1 – 1.7	Flam. Liq. 3, H226 Repr. 2, H361 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May be harmful if inhaled.

Symptoms/effects after skin contact : May cause skin irritation.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : No information available.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : None known.

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### 5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Spillage of this material may create a slippery condition for foot or vehicle traffic. Use only in well ventilated areas.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store locked up.

Incompatible materials : Oxidizing agent.

Storage area : Store in a well-ventilated place. Store away from heat.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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### Octamethylcyclotetrasiloxane (556-67-2)

#### USA - AIHA - Occupational Exposure Limits

WEEL TWA [ppm]	10 ppm
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### 8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary exposure.

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Chemical goggles. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 700 – 1500 g/mol
Color	: Colorless.
Odor	: Characteristic.
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 150 °C
Flash point	: > 101.1 °C closed cup
Auto-ignition temperature	: 420 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 0.98
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 35 – 45 cSt
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable.

#### 10.3. Possibility of hazardous reactions

No additional information available

#### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5. Incompatible materials

Oxidizing agent.

#### 10.6. Hazardous decomposition products

Formaldehyde. Organic acid vapors. Silicon dioxide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### Octamethylcyclotetrasiloxane (556-67-2)

LD50 oral rat	> 4800 mg/kg (Male); Method: Similar to OECD 401
LD50 dermal rat	> 2375 mg/kg (Female, Male); Method: Similar to OECD 402
LC50 Inhalation - Rat	36 g/m <sup>3</sup> (Exposure time: 4 h)

#### Silanol terminated polydimethylsiloxane (70131-67-8)

LD50 oral rat	> 64 mg/kg Source: Corporate Solution From Thomson Micromedex
LD50 dermal rabbit	> 16 ml/kg
LC50 Inhalation - Rat	> 8750 mg/m <sup>3</sup> (Exposure time: 7 h)

#### Decamethylcyclopentasiloxane (541-02-6)

LD50 oral rat	> 24134 mg/kg Source: Corporate Solution From Thomson Micromedex
LD50 dermal rabbit	> 16000 mg/kg Source: Corporate Solution From Thomson Micromedex
LC50 Inhalation - Rat	8.67 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EPA OTS 798.1150 (Acute inhalation toxicity), 95% CL: 7,3 - 10,32
LC50 inhalation rat	(lethal concentration)
Toxicity information	> 2700 mg/m <sup>3</sup> (lethal concentration: inhalation, rat)

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified

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Carcinogenicity	: Not classified None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

### Decamethylcyclopentasiloxane (541-02-6)

NOAEL (oral,rat,90 days)	≥ 1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal,rat/rabbit,90 days)	≥ 1600 mg/kg body weight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May be harmful if inhaled.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Octamethylcyclotetrasiloxane (556-67-2)

LC50 - Fish [1]	> 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 - Crustacea [1]	> 15 µg/l Test organisms (species): Daphnia magna
LC50 - Fish [2]	> 1000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

#### Decamethylcyclopentasiloxane (541-02-6)

LC50 - Fish [1]	> 16 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 2.9 µg/l Test organisms (species): Daphnia magna

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### Octamethylcyclotetrasiloxane (556-67-2)

BCF - Fish [1]	12400
Partition coefficient n-octanol/water (Log Pow)	5.1

#### Silanol terminated polydimethylsiloxane (70131-67-8)

Partition coefficient n-octanol/water (Log Pow)	2.43 Source: Quantitative Structure Activity Relation
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#### Decamethylcyclopentasiloxane (541-02-6)

Partition coefficient n-octanol/water (Log Pow)	5.2 Source: Corporate Solution From Thomson Micromedex
Partition coefficient n-octanol/water (Log Kow)	5.5

### 12.4. Mobility in soil

#### Decamethylcyclopentasiloxane (541-02-6)

Mobility in soil	16000 Source: HSDB
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### 12.5. Other adverse effects

Effect on the ozone layer : No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.  
Product/Packaging disposal recommendations : Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility..  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>Transport document description</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

### 14.6. Special precautions for user

#### DOT

No data available

#### TDG

No data available

#### IMDG

No data available

#### IATA

No data available

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

Not applicable

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Octamethylcyclotetrasiloxane	556-67-2	Present	Active	T
Silanol terminated polydimethylsiloxane	70131-67-8	Present	Active	XU
Decamethylcyclopentasiloxane	541-02-6	Present	Active	

#### 15.2. International regulations

##### CANADA

###### Octamethylcyclotetrasiloxane (556-67-2)

Listed on the Canadian DSL (Domestic Substances List)

###### Silanol terminated polydimethylsiloxane (70131-67-8)

Listed on the Canadian DSL (Domestic Substances List)

###### Decamethylcyclopentasiloxane (541-02-6)

Listed on the Canadian DSL (Domestic Substances List)

##### EU-Regulations

###### Octamethylcyclotetrasiloxane (556-67-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

###### Decamethylcyclopentasiloxane (541-02-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### National regulations

###### Octamethylcyclotetrasiloxane (556-67-2)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)  
Listed on the NCI (Vietnam - National Chemical Inventory)

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### Silanol terminated polydimethylsiloxane (70131-67-8)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)  
Listed on TECI (Thailand Existing Chemicals Inventory)  
Listed on the NCI (Vietnam - National Chemical Inventory)

### Decamethylcyclopentasiloxane (541-02-6)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)  
Listed on the NCI (Vietnam - National Chemical Inventory)  
Listed on TECI (Thailand Existing Chemicals Inventory)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

Full text of H-phrases::

H226	Flammable liquid and vapor
H227	Combustible liquid
H361	Suspected of damaging fertility or the unborn child
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating

Health

Flammability

Physical

: 1 Slight Hazard - Irritation or minor reversible injury possible  
: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)  
: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

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Revision date: 05/03/2023

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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