SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

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

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Chemical intermediate
For research and industrial use only

1.3. Details of the supplier of the safety data sheet

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 - www.gelest.com

1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification
Not classified

2.2. Label elements

GHS-US labeling
No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silanol terminated polydimethylsiloxane</td>
<td>(CAS No) 70131-67-8</td>
<td>&gt; 95</td>
<td>Not classified</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>(CAS No) 556-67-2</td>
<td>&lt; 3</td>
<td>Flam. Liq. 3, H226</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Dermal), H312</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2B, H320</td>
</tr>
</tbody>
</table>

3.2. Mixture

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, both acute and delayed
Symptoms/injuries after inhalation: May be harmful if inhaled.
Symptoms/injuries after skin contact: May cause skin irritation.
Symptoms/injuries after eye contact: May cause eye irritation.
Symptoms/injuries after ingestion: No information available.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures
5.1. Extinguishing media
Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters
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
See Heading 8. Exposure controls and personal protection.

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. 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.
Incompatible materials: Oxidizing agent.
Storage area: Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)
No additional information available
SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls: Provide local exhaust or general room ventilation.
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: No data available
Odor: Mild menthol-like aroma.
Odor threshold: No data available
Refractive index: 1.402
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: < -60 °C
Freezing point: No data available
Boiling point: > 205 °C
Flash point: 205 °C
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: 0.96
VOC content: < 5 %
Solubility: Insoluble in water.
Log Pow: No data available
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

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

Octamethylcyclotetrasiloxane (556-67-2)
- LD50 oral rat: 1540 mg/kg
- LD50 dermal rat: 1770 mg/kg
- LD50 dermal rabbit: 794 µl/kg
- LC50 inhalation rat (mg/l): 36 g/m³ (Exposure time: 4 h)
- ATE US (oral): 1540.000 mg/kg body weight
- ATE US (dermal): 1770.000 mg/kg body weight
- ATE US (vapors): 36.000 mg/l/4h
- ATE US (dust, mist): 36.000 mg/l/4h

Silanol terminated polydimethylsiloxane (70131-67-8)
- LD50 oral rat: > 15400 mg/kg
- LC50 inhalation rat (mg/l): > 8750 mg/m³ (Exposure time: 7 h)

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified
Symptoms/injuries after inhalation: May be harmful if inhaled.
Symptoms/injuries after skin contact: May cause skin irritation.
Symptoms/injuries after eye contact: May cause eye irritation.
Symptoms/injuries 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)
- LC50 fish 2: > 1000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

12.2. Persistence and degradability
Octamethylcyclotetrasiloxane (556-67-2)
Persistence and degradability: May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential
Octamethylcyclotetrasiloxane (556-67-2)
- BCF fish 1: 12400
- Log Pow: 5.1

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Effect on ozone layer: No additional information available
Effect on the global warming: No known ecological damage caused by this product.
SECTION 13: Disposal considerations

13.1. Waste treatment methods
Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Incinerate. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
Not regulated for transport.

14.2. UN proper shipping name
Not applicable

14.3. Additional information
Other information : No supplementary information available.

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations
Octamethylcyclotetrasiloxane (556-67-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
EPA TSCA Regulatory Flag : T - T indicates a substance that is the subject of a Section 4 test rule under TSCA.
Silanol terminated polydimethylsiloxane (70131-67-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
Octamethylcyclotetrasiloxane (556-67-2)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
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 Turkish inventory of chemical
Silanol terminated polydimethylsiloxane (70131-67-8)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
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)

15.3. US State regulations
SILANOL TERMINATED POLYDIMETHYLSILOXANE(70131-67-8)

<table>
<thead>
<tr>
<th>State</th>
<th>Proposition 65 - Carcinogens List</th>
<th>Proposition 65 - Developmental Toxicity</th>
<th>Proposition 65 - Reproductive Toxicity - Female</th>
<th>Proposition 65 - Reproductive Toxicity - Male</th>
<th>NSRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Non-significant risk level (NSRL)</td>
</tr>
<tr>
<td>U.S. - California</td>
<td>Proposition 65 - Carcinogens List</td>
<td>Proposition 65 - Developmental Toxicity</td>
<td>Proposition 65 - Reproductive Toxicity - Female</td>
<td>Proposition 65 - Reproductive Toxicity - Male</td>
<td>Non-significant risk level (NSRL)</td>
</tr>
</tbody>
</table>
SILANOL TERMINATED POLYDIMETHYLSILOXANE
Safety Data Sheet

Octamethylcyclosiloxane (556-67-2)
No
No
No
No

Silanol terminated polydimethylsiloxane (70131-67-8)

<table>
<thead>
<tr>
<th>U.S. - California - Proportion 65 - Carcinogens List</th>
<th>U.S. - California - Proportion 65 - Developmental Toxicity</th>
<th>U.S. - California - Proportion 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proportion 65 - Reproductive Toxicity - Male</th>
<th>Non-significant risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Silanol terminated polydimethylsiloxane (70131-67-8)

SECTION 16: Other information
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.

Full text of H-phrases:

- **Acute Tox. 4 (Dermal)**
  Acute toxicity (dermal) Category 4
- **Acute Tox. 4 (Oral)**
  Acute toxicity (oral) Category 4
- **Eye Irrit. 2B**
  Serious eye damage/eye irritation Category 2B
- **Flam. Liq. 3**
  Flammable liquids Category 3
- **H226**
  Flammable liquid and vapor
- **H302**
  Harmful if swallowed
- **H312**
  Harmful in contact with skin
- **H320**
  Causes eye irritation

**HMIS III Rating**
- **Health**: 1 Slight Hazard - Irritation or minor reversible injury possible
- **Flammability**: 1 Slight Hazard
- **Physical**: 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 10/27/2014  Revision date: 10/23/2015  Version: 2.0

SDS US (GHS HazCom 2012) - Custom

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

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2015 Gelest Inc. Morrisville, PA 19067