POLYDIMETHYLSILOXANE, TRIMETHYLSILOXY TERMINATED

Safety Data Sheet DMS-T43

Issue date: 11/03/2014 Revision date: 01/22/2024 Version: 3.3

SECTION 1: Identification

1.1. Identification

Product name	:	POLYDIMETHYLSILOXANE, TRIMETHYLSILOXY TERMINATED
Product code	:	DMS-T43
Product form	:	Substance
Physical state	:	Liquid
Synonyms	:	SILICONE OIL; DIMETHYLPOLYSILOXANE; DIMETHICONE; POLYDIMETHYLSILOXANE
Chemical family	:	ORGANOSILOXANE

1.2. Recommended use and restrictions on use

Recommended use	:	Chemical intermediate

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 - www.gelest.com

1.4. Emergency telephone number

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

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	:	POLYDIMETHYLSILOXANE, TRIMETHYLSILOXY TERMINATED

Name	Product identifier	%	GHS US classification
Polydimethylsiloxane	CAS-No.: 63148-62-9	95 – 100	Not classified

Name	Product identifier	%	GHS US classification
Decamethylcyclopentasiloxane	CAS-No.: 541-02-6	0 – 1	Flam. Liq. 4, H227
Dodecamethylcyclohexasiloxane	CAS-No.: 540-97-6	0 – 1	Flam. Liq. 4, H227

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. Remove contact lenses, if present and easy to do. Continue rinsing. 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 : No information available.

Symptoms/effects after skin contact : May cause mild 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.

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

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.
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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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:
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential 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. Viscous.
Molecular mass	:	91700 g/mol
Color	:	No data available
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	< -40 °C
Freezing point	:	No data available
Boiling point	:	> 205 °C
Flash point	:	315 °C
Auto-ignition temperature	:	490 °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	:	0.976
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	:	30000 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

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

Polydimethylsiloxane (63148-62-9)	
LD50 oral rat	> 17000 mg/kg Source: National Library of Medicine
LD50 dermal rabbit	> 2000 mg/kg Source: National Library of Medicine
LC50 inhalation rat	> 535 mg/l

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/m³ (lethal concentration: inhalation, rat)

Dodecamethylcyclohexasiloxane (540-97-6)	
LD50 oral rat	> 50000 mg/kg Source: National Library of Medicine
LD50 dermal rat	> 2000 mg/kg Source: ECHA

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

Dodecamethylcyclohexasiloxane (540-97-6)	
NOAEL (oral,rat,90 days)	≥ 1000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard : Not classified
Symptoms/effects after inhalation : No information available.
Symptoms/effects after skin contact : May cause mild 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

Polydimethylsiloxane (63148-62-9)	
LC50 - Fish [1]	> 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 - Fish [2]	> 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

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

Dodecamethylcyclohexasiloxane (540-97-6)	
LC50 - Fish [1]	0.028 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	0.033 mg/l Source: Ecological Structure Activity Relationships

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

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

Dodecamethylcyclohexasiloxane (540-97-6)	
Partition coefficient n-octanol/water (Log Pow)	6.33 Source: National Library of Medicine

12.4. Mobility in soil

Decamethylcyclopentasiloxane (541-02-6)	
Mobility in soil	16000 Source: HSDB

Dodecamethylcyclohexasiloxane (540-97-6)	
Mobility in soil	79000 Source: HSDB

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.
Ecological information : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
Transport document description			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
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

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
Polydimethylsiloxane	63148-62-9	Present	Active	XU
Decamethylcyclopentasiloxane	541-02-6	Present	Active	
Dodecamethylcyclohexasiloxane	540-97-6	Present	Active	

15.2. International regulations

CANADA

Polydimethylsiloxane (63148-62-9)

Listed on the Canadian DSL (Domestic Substances List)

Decamethylcyclopentasiloxane (541-02-6)

Listed on the Canadian DSL (Domestic Substances List)

Dodecamethylcyclohexasiloxane (540-97-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Decamethylcyclopentasiloxane (541-02-6)

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

Dodecamethylcyclohexasiloxane (540-97-6)

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

National regulations

Polydimethylsiloxane (63148-62-9)

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 the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on Thailand Existing Chemicals Inventory (DIW)

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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 Thailand Existing Chemicals Inventory (DIW)

Dodecamethylcyclohexasiloxane (540-97-6)

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Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on Thailand Existing Chemicals Inventory (DIW)
Listed on the NCI (Vietnam - National Chemical 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::

H227	Combustible liquid

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.: Chemcial 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 : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 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)
Physical : 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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SDS US (GHS HazCom 2012) - Custom

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