



Enabling Your Technology

OCTAMETHYLCYCLOTETRASILOXANE, 98%

Safety Data Sheet SIO6700.0

Date of issue: 18/12/2014

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Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form	: Substance
Physical state	: Liquid
Substance name	: OCTAMETHYLCYCLOTETRASILOXANE, 98%
Product code	: SIO6700.0
Formula	: C ₈ H ₂₄ O ₄ Si ₄
Synonyms	: D4 CYCLIC TETRAMER CYCLOMETHICONE CYCLOHEXASILOXANE CYCLOTETRASILOXANE
Chemical family	: ORGANOSILOXANE

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

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**GELEST INC.**Fritz-Klatte-Strasse 8
65933 Frankfurt**Germany**

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

info@gelestde.com - www.gelestde.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****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Reproductive toxicity, Category 2 H361

Hazardous to the aquatic environment — Chronic Hazard, Category 4 H413

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

: Warning

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Hazard statements (CLP)	: H361 - Suspected of damaging fertility or the unborn child. H413 - May cause long lasting harmful effects to aquatic life.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P273 - Avoid release to the environment. P308+P313 - IF exposed or concerned: Get medical advice/attention. P405 - Store locked up.

2.3. Other hazards

This substance/mixture meets the PBT criteria of REACH regulation, annex XIII
This substance/mixture meets the vPvB criteria of REACH regulation, annex XIII
Contains PBT/vPvB substances \geq 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
Name	: OCTAMETHYLCYCLOTETRASILOXANE, 98%
CAS-No.	: 556-67-2
EC-No.	: 209-136-7

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Octamethylcyclotetrasiloxane substance listed as REACH Candidate (Octamethylcyclotetrasiloxane (D4))	(CAS-No.) 556-67-2 (EC-No.) 209-136-7	98 - 100	Repr. 2, H361f Aquatic Chronic 4, H413

Full text of 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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of 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, both acute and delayed

Symptoms/effects	: Suspected of damaging fertility or the unborn child.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Harmful in contact with skin. Causes mild skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame. Liquid generates strong static charge when poured.
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5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
- 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 vapour and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Eliminate ignition sources. Use special care to avoid static electric charges.

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

Avoid release to the environment. 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. Use only non-sparking tools.

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

- Additional hazards when processed : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. Use only non-sparking tools.
- 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

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
- Storage conditions : Keep container tightly closed. Keep in a cool place. Store locked up.
- Incompatible materials : Oxidizing agent. Peroxides.
- 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:

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

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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	: 296.61 g/mol
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
Refractive index	: 1.3968
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: 17.4 °C
Boiling point	: 175 - 176 °C
Flash point	: 51 °C
Critical temperature	: 314 °C
Auto-ignition temperature	: 400 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: 1 mm Hg @ 23 °C
Critical pressure	: 1.03 mPa
Relative vapour density at 20 °C	: > 1
Relative density	: 0.956
% Volatiles	: 100 %
Solubility	: Insoluble in water. Water: 50 mg/l
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 2.3 cSt
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.75 - 7.4 vol % (lower; upper)

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 in sealed containers in a cool place.

10.3. Possibility of hazardous reactions

Bases can cause non-hazardous polymerization.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent. Peroxides.

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10.6. Hazardous decomposition products

Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Octamethylcyclotetrasiloxane (556-67-2)	
LD50 oral rat	1540 mg/kg RTECS Number: GZ4397000
LD50 dermal rat	1770 mg/kg
LD50 dermal rabbit	794 µl/kg
LC50 inhalation rat (mg/l)	36 g/m ³ (Exposure time: 4 h)
ATE CLP (oral)	1540 mg/kg bodyweight
ATE CLP (dermal)	1770 mg/kg bodyweight
ATE CLP (vapours)	36 mg/l/4h
ATE CLP (dust,mist)	36 mg/l/4h

Skin corrosion/irritation	: Not classified Skin Irritation - rabbit: 500 mg/24H: mild
Serious eye damage/irritation	: Not classified Eye Irritation - rabbit: 500 mg/24H: mild
Respiratory or skin sensitisation	: 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	: Suspected of damaging fertility or the unborn child. The classification is based on reproductive studies in animals. Octamethylcyclotetrasiloxane: Rat TDLo (Inhalation) 500 ppm, male 70 days and 70 days prior to mating - 3 weeks after birth prior to mating. Toxic Effects: Effects on Newborn - Live birth index.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Harmful in contact with skin. Causes mild skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	: May cause long lasting harmful effects to aquatic life.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: May cause long lasting harmful effects to aquatic life.

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

No additional information available

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

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12.5. Results of PBT and vPvB assessment

OCTAMETHYLCYCLOTETRASILOXANE, 98% (556-67-2)

This substance/mixture meets the PBT criteria of REACH regulation, annex XIII

This substance/mixture meets the vPvB criteria of REACH regulation, annex XIII

Component

Octamethylcyclotetrasiloxane (556-67-2)

This substance/mixture meets the PBT criteria of REACH regulation, annex XIII

This substance/mixture meets the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Product/Packaging disposal recommendations : 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

14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1993

UN-No. (IMDG) : 1993

UN-No. (IATA) : 1993

UN-No. (ADN) : 1993

UN-No. (RID) : 1993

14.2. UN proper shipping name

Proper Shipping Name (ADR) : FLAMMABLE LIQUID, N.O.S.

Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.

Proper Shipping Name (IATA) : Flammable liquid, n.o.s.

Proper Shipping Name (ADN) : FLAMMABLE LIQUID, N.O.S.

Proper Shipping Name (RID) : FLAMMABLE LIQUID, N.O.S.

Transport document description (ADR) : UN 1993 FLAMMABLE LIQUID, N.O.S. (OCTAMETHYLCYCLOTETRASILOXANE), 3, III, (D/E)

Transport document description (IMDG) : UN 1993 FLAMMABLE LIQUID, N.O.S. (OCTAMETHYLCYCLOTETRASILOXANE), 3, III

Transport document description (IATA) : UN 1993 Flammable liquid, n.o.s. (OCTAMETHYLCYCLOTETRASILOXANE), 3, III

Transport document description (ADN) : UN 1993 FLAMMABLE LIQUID, N.O.S. (OCTAMETHYLCYCLOTETRASILOXANE), 3, III

Transport document description (RID) : UN 1993 FLAMMABLE LIQUID, N.O.S. (OCTAMETHYLCYCLOTETRASILOXANE), 3, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3

Danger labels (ADR) : 3



IMDG

Transport hazard class(es) (IMDG) : 3

Danger labels (IMDG) : 3



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IATA

Transport hazard class(es) (IATA) : 3

Hazard labels (IATA) : 3



ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3



RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3



14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : F1

Special provisions (ADR) : 274, 601, 640E

Limited quantities (ADR) : 5I

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P001, IBC03, LP01, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T4

Portable tank and bulk container special provisions (ADR) : TP1, TP29

Tank code (ADR) : LGBF

Vehicle for tank carriage : FL

Transport category (ADR) : 3

Special provisions for carriage - Packages (ADR) : V12

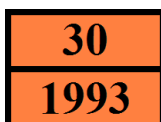
Special provisions for carriage - Operation (ADR) : S2

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Hazard identification number (Kemler No.) : 30

Orange plates :



Tunnel restriction code (ADR) : D/E

- Transport by sea

Special provisions (IMDG) : 223, 274, 955

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : P001, LP01

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1, TP29

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-E

Stowage category (IMDG) : A

- Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y344

PCA limited quantity max net quantity (IATA) : 10L

PCA packing instructions (IATA) : 355

PCA max net quantity (IATA) : 60L

CAO packing instructions (IATA) : 366

CAO max net quantity (IATA) : 220L

Special provisions (IATA) : A3

ERG code (IATA) : 3L

- Inland waterway transport

Classification code (ADN) : F1

Special provisions (ADN) : 274, 601, 640E

Limited quantities (ADN) : 5 L

Excepted quantities (ADN) : E1

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : F1

Special provisions (RID) : 274, 601, 640E

Limited quantities (RID) : 5L

Excepted quantities (RID) : E1

Packing instructions (RID) : P001, IBC03, LP01, R001

Mixed packing provisions (RID) : MP19

Portable tank and bulk container instructions (RID) : T4

Portable tank and bulk container special provisions (RID) : TP1, TP29

Tank codes for RID tanks (RID) : LGBF

Transport category (RID) : 3

Special provisions for carriage – Packages (RID) : W12

Colis express (express parcels) (RID) : CE4

Hazard identification number (RID) : 30

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Octamethylcyclotetrasiloxane (D4) is on the REACH Candidate List

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: Octamethylcyclotetrasiloxane (D4) (EC 209-136-7, CAS 556-67-2)

OCTAMETHYLCYCLOTETRASIOXANE, 98% is not on the REACH Annex XIV List

OCTAMETHYLCYCLOTETRASIOXANE, 98% is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

OCTAMETHYLCYCLOTETRASIOXANE, 98% is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : 100 %

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (KBwS-Beschluss; ID No. 7735)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : OCTAMETHYLCYCLOTETRASIOXANE, 98% is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H361;H413>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

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; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
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Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
H361	Suspected of damaging fertility or the unborn child.
H361f	Suspected of damaging fertility.

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H413	May cause long lasting harmful effects to aquatic life.
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SDS EU (REACH Annex II) - Custom

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.

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