

1,3,5,7-TETRAMETHYLCYCLOTETRASILOXANE

Safety Data Sheet SIT7530.0

Date of issue: 05/08/2014

Version: 1.0

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

Product form : Substance
 Substance name : 1,3,5,7-TETRAMETHYLCYCLOTETRASILOXANE
 Product code : SIT7530.0
 Formula : C₄H₁₆O₄Si₄
 Synonyms : TMCTS; METHYL HYDROGEN CYCLIC TETRAMER
 Chemical family : ORGANOSILOXANE

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

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

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

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification (GHS-US)**

Flam. Liq. 3 H226

2.2. Label elements**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS02

Signal word (GHS-US) : Warning
 Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
 Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P210 - Keep away from heat, open flames, sparks. - No smoking
 P240 - Ground/bond container and receiving equipment
 P241 - Use explosion-proof electrical equipment
 P242 - Use only non-sparking tools
 P243 - Take precautionary measures against static discharge
 P370+P378 - In case of fire: Use water spray or fog, foam, carbon dioxide, dry chemical for extinction
 P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 P233 - Keep container tightly closed
 P403+P235 - Store in a well-ventilated place. Keep cool
 P501 - Dispose of contents/container to licensed waste disposal facility.

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 : Mono-constituent
 Name : 1,3,5,7-TETRAMETHYLCYCLOTETRASILOXANE

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CAS No : 2370-88-9
EC no : 219-137-4

Name	Product identifier	%	Classification (GHS-US)
Tetramethylcyclotetrasiloxane	(CAS No) 2370-88-9	> 95	Flam. Liq. 3, H226

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

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 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.

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/injuries after inhalation : No information available. Avoid any direct contact with the product.

Symptoms/injuries after skin contact : No information available. Avoid any direct contact with the product.

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

Symptoms/injuries after ingestion : No information available. Avoid any direct contact with the product.

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. Water fog. Foam. Carbon dioxide. Dry chemical.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame. During extended storage may generate hydrogen gas.

Explosion hazard : May form flammable/explosive vapor-air mixture.

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

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

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper 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

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. 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, open flames, sparks. - No smoking.

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Precautions for safe handling	: Containers must be properly grounded before beginning transfer. Provide good ventilation in process area to prevent accumulation of vapors. Avoid all eye and skin contact and do not breathe vapor and mist.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed.
Storage conditions	: Keep container tightly closed. Contents may build pressure on prolonged storage. Self-venting closures are recommended for extended storage.
Incompatible materials	: Alkalis. Metals. 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	: 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	: 240.51 g/mol
Color	: Colorless.
Odor	: No data available
Odor threshold	: No data available
Refractive index	: 1.387
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -69 °C
Freezing point	: No data available
Boiling point	: 134 - 135 °C
Flash point	: 31 °C
Critical temperature	: 278 °C
Self ignition temperature	: 270 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapor
Vapor pressure	: 7 mm Hg @ 20°C
Relative vapor density at 20 °C	: 8
Relative density	: 0.9912
VOC content	: > 95 %
Solubility	: Insoluble in water. Reacts with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: 0.8 - 52 vol %

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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 stored under a dry inert atmosphere.

10.3. Possibility of hazardous reactions

The product can generate small amounts of hydrogen when exposed to alkalis and protic materials such as water and alcohol in combination with metal salts such as aluminum chloride or precious metals such as platinum. Self-venting closures are recommended for prolonged storage.

10.4. Conditions to avoid

Store away from alkalis, oxidizers, metal salts, precious metals.

10.5. Incompatible materials

Alkalis. Metals. Oxidizing agent.

10.6. Hazardous decomposition products

Carbon monoxide. Formaldehyde. Hydrogen. Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
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
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified At inhalation concentrations of greater than 100 ppm rats demonstrated statistically significant increased incidence of kidney stones.
Aspiration hazard	:	Not classified
Symptoms/injuries after inhalation	:	No information available. Avoid any direct contact with the product.
Symptoms/injuries after skin contact	:	No information available. Avoid any direct contact with the product.
Symptoms/injuries after eye contact	:	May cause eye irritation.
Symptoms/injuries after ingestion	:	No information available. Avoid any direct contact with the product.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste 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.

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SECTION 14: Transport information

14.1. UN number

UN-No.(DOT) : 1993
DOT NA no. UN1993

14.2. UN proper shipping name

DOT Proper Shipping Name : FLAMMABLE LIQUIDS, N.O.S.
(1,3,5,7-TETRAMETHYLCYCLOTETRASILOXANE)
Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Tetramethylcyclotetrasiloxane (2370-88-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Tetramethylcyclotetrasiloxane (2370-88-9)

Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Non-Domestic Substances List (NDSL)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)
Listed on the Korean ECL (Existing Chemical List) inventory.

15.3. US State regulations

No additional information available

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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; 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.

Full text of H-phrases::

Flam. Liq. 3	Flammable liquids Category 3
H226	Flammable liquid and vapor

HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 3 Serious Hazard
Physical : 1 Slight Hazard

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

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