

1,1,3,3,5,5,7,7-OCTAMETHYLCYCLOTETRASILAZANE

Safety Data Sheet SIO6698.0

Date of issue: 12/23/2015

Revision date: 01/08/2016

Version: 1.1

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

Product form : Substance
 Physical state : Solid
 Substance name : 1,1,3,3,5,5,7,7-OCTAMETHYLCYCLOTETRASILAZANE
 Product code : SIO6698.0
 Formula : C₈H₂₈N₄Si₄
 Synonyms : OMCTS; 2,2,4,4,6,6,8,8-OCTAMETHYLCYCLOTETRASILAZANE
 Chemical family : ORGANOSILANE

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**

Acute Tox. 3 (Oral) H301
 Skin Irrit. 2 H315
 Eye Irrit. 2A H319
 STOT SE 3 H335

Full text of H-phrases: see section 16

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

Hazard pictograms (GHS-US) :



GHS06

GHS07

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: H301 - Toxic if swallowed
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation

Precautionary statements (GHS-US) :

: P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P312 - Call a doctor if you feel unwell
 P261 - Avoid breathing dust
 P264 - Wash hands thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P271 - Use only outdoors or in a well-ventilated area
 P330 - Rinse mouth
 P301+P310 - If swallowed: Immediately call a POISON CENTER
 P302+P352 - If on skin: Wash with plenty of soap and water
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337+P313 - If eye irritation persists: Get medical advice/attention
 P321 - Specific treatment (see first aid instructions on this label)
 P362+P364 - Take off contaminated clothing and wash it before reuse

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P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Other hazards

Other hazards not contributing to the classification : This compound reacts with moisture in living tissue to generate ammonia. The US ACGIH (TWA) for ammonia is 25 ppm.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Substance type : Mono-constituent
Name : 1,1,3,3,5,5,7,7-OCTAMETHYLCYCLOTETRASILAZANE
CAS No : 1020-84-4
EC no : 213-817-4

Name	Product identifier	%	GHS-US classification
Octamethylcyclotetrasilazane	(CAS No) 1020-84-4	95 - 100	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

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. 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. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation. Muscular weakness and somnolence observed at high exposures to test animals.

Symptoms/injuries after eye contact : Causes serious eye irritation.

Symptoms/injuries after ingestion : Toxic 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 : Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible solid. 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 : 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 contact with skin and eyes. Do not breathe dust.

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.

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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 product 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 contact with skin and eyes. Avoid dust formation. Do not breathe dust. Ground/bond container and receiving equipment. Use only outdoors or in a well-ventilated area.

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. Keep in a cool place. Store locked up.

Incompatible materials : Acids. Alcohols. Moisture. Oxidizing agent. Peroxides. Water.

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 : Handle in an enclosing hood with exhaust 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.

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 combination organic vapor - amine gas (brown cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Crystalline solid.

Molecular mass : 292.68 g/mol

Color : Off-white.

Odor : Ammonia.

Odor threshold : No data available

Refractive index : 1.458

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : 97 °C

Freezing point : No data available

Boiling point : 225 °C

Flash point : 66 °C

Auto-ignition temperature : No data available

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Decomposition temperature	: No data available
Flammability (solid, gas)	: Combustible solid
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 0.95
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
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 in sealed containers in a cool place.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating ammonia.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Alcohols. Moisture. Oxidizing agent. Peroxides. Water.

10.6. Hazardous decomposition products

Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed.

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ATE US (oral)	100.000 mg/kg body weight
Octamethylcyclotetrasilazane (1020-84-4)	
LD50 oral rat	100 mg/kg
ATE US (oral)	100.000 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation. Muscular weakness and somnolence observed at high exposures to test animals.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Reason for classification	: Expert judgment

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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

Other adverse effects : This substance may be hazardous to the environment.
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 : May be incinerated. 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

UN-No.(DOT) : 2811
DOT NA no. UN2811

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Toxic solids, organic, n.o.s.
(1,1,3,3,5,5,7,7-OCTAMETHYLCYCLOTETRASILAZANE)
Transport hazard class(es) (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 6.1 - Poison



DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 153
DOT Packaging Non Bulk (49 CFR 173.xxx) : 213
DOT Packaging Bulk (49 CFR 173.xxx) : 240

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) : 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 200 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

Octamethylcyclotetrasilazane (1020-84-4)

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

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15.2. International regulations

Octamethylcyclotetrasilazane (1020-84-4)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian NDSL (Non-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 PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

Octamethylcyclotetrasilazane (1020-84-4)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

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. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H301	Toxic if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability : 2 Moderate 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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Safety Data Sheet

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