SECTION 1: Identification

1.1. Product identifier
Product name: 2-(TRIMETHYSILOXY)-1,3-BUTADIENE
Product code: SIT8571.2
Product form: Substance
Physical state: Liquid
Formula: C7H14OSi
Synonyms:
- 2-(TRIMETHYSILOXY)BUTADIENE
- 3-(TRIMETHYSILOXY)BUTADIENE
- 3-BUTENAL, TRIMETHYSILYLACETAL
- TRIMETHYL[1-METHYLENEALLYLOXY]SILANE
- TRIMETHYL[1-METHYLENEPROP-2-EN-1-YLOXY]SILANE
Chemical family: ORGANOSILANE

1.2. Recommended use of the chemical and restrictions on use
Recommended use: Chemical intermediate
For research 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: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
- Flammable liquids Category 2: H225
- Serious eye damage/eye irritation Category 2A: H319
Full text of H statements: see section 16

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US):
- GHS02
- GHS07

Signal word (GHS-US): Danger
Hazard statements (GHS-US):
- H225 - Highly flammable liquid and vapor
- H319 - Causes serious eye irritation
Precautionary statements (GHS-US):
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P210 - Keep away from heat, open flames, sparks. - No smoking
- P233 - Keep container tightly closed
- 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
- P264 - Wash hands thoroughly after handling
- P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower
- 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
- P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish
- P403+P405 - Keep in a cool place
2-(TRIMETHYLSILOXY)-1,3-BUTADIENE

Safety Data Sheet

P501 - Dispose of contents/container to licensed waste disposal facility

2.3. Hazards not otherwise classified (HNOC)
No additional information available

2.4. Unknown acute toxicity (GHS US)
No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono-constituent</td>
<td>2-(TRIMETHYLSILOXY)-1,3-BUTADIENE</td>
<td>38053-91-7</td>
</tr>
</tbody>
</table>

Name | Product identifier | % | GHS-US classification |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(Trimethylsiloxy)-1,3-butadiene</td>
<td>(CAS No) 38053-91-7</td>
<td>95 - 100</td>
<td>Flam. Liq. 2, H225 Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures
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 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, both acute and delayed

Symptoms/injuries after inhalation: May cause irritation to the respiratory tract.

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

Symptoms/injuries after eye contact: Causes serious 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: Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Highly flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

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

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 vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Eliminate every possible source of ignition. 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".

Print date: 01/27/2017  EN (English US)  SDS ID: SIT8571.2
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. 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: Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent accumulation of vapors. 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.
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. 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.
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: 144.27 g/mol
Color: Straw.
Odor: Mild.
Odor threshold: No data available
Refractive index: 1.429
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: No data available
Freezing point: < 0 °C
Boiling point: 50 - 55 °C @ 50 mm Hg
Flash point: 12 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Highly flammable liquid and vapor
2-(TRIMETHYLSILOXY)-1,3-BUTADIENE
Safety Data Sheet

Vapor pressure : < 25 mm Hg @ 25°C
Relative vapor density at 20 °C : > 1
Relative density : 0.807
VOC content : 100 %
Solubility : Insoluble in water. Reacts slowly 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 when stored in sealed containers.

10.3. Possibility of hazardous reactions
Reacts with water and moisture in air liberating butenal.

10.4. Conditions to avoid
Heat. Open flame. Sparks.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified
Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
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
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 cause irritation to the respiratory tract.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : No information available.
Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available
# Safety Data Sheet

## 12.3. Bioaccumulative potential
No additional information available

## 12.4. Mobility in soil
No additional information available

## 12.5. Other adverse effects

<table>
<thead>
<tr>
<th>Other adverse effects</th>
<th>Effect on ozone layer</th>
<th>Effect on the global warming</th>
<th>GWPmix comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>This substance may be hazardous to the environment.</td>
<td>No additional information available</td>
<td>No known effects from this product.</td>
<td>No known effects from this product.</td>
</tr>
</tbody>
</table>

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Sewage disposal recommendations</th>
<th>Waste disposal recommendations</th>
<th>Additional information</th>
<th>Ecology - waste materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not dispose of waste into sewer.</td>
<td>Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.</td>
<td>Handle empty containers with care because residual vapors are flammable.</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

## SECTION 14: Transport information

### 14.1. UN number

<table>
<thead>
<tr>
<th>UN-No. (DOT)</th>
<th>DOT NA no. (UN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>UN1993</td>
</tr>
</tbody>
</table>

### 14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>Transport document description</th>
<th>Proper Shipping Name (DOT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1993 Flammable liquids, n.o.s. (2-(TRIMETHYLSILOXY)-1,3-BUTADIENE), 3, II</td>
<td>Flammable liquids, n.o.s. (2-(TRIMETHYLSILOXY)-1,3-BUTADIENE)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class (DOT)</th>
<th>Packing group (DOT)</th>
<th>Hazard labels (DOT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>II</td>
<td>3 - Flammable liquid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>202</td>
<td>242</td>
<td>150</td>
<td>G - Identifies PSN requiring a technical name</td>
</tr>
</tbody>
</table>

### 14.3. Additional information

<table>
<thead>
<tr>
<th>Emergency Response Guide (ERG) Number</th>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>No supplementary information available.</td>
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</table>

<table>
<thead>
<tr>
<th>Transport by sea</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DOT Vessel Stowage Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air transport</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)</th>
<th>DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 L</td>
<td>60 L</td>
</tr>
</tbody>
</table>
SECTION 15: Regulatory information

15.1. US Federal regulations

2-(TRIMETHYLSILOXY)-1,3-BUTADIENE (38053-91-7)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

2-(Trimethylsiloxy)-1,3-butadiene (38053-91-7)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations

2-(Trimethylsiloxy)-1,3-butadiene (38053-91-7)

Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations
No additional information available

SECTION 16: Other information

Full text of H-phrases:

- H225 Highly flammable liquid and vapor
- H319 Causes serious eye irritation

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.

HMIS III Rating

Health: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability: 4 Severe Hazard - Flammable gases or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)
Physical: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Date of issue: 01/27/2017 
Version: 1.0

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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