SECTION 1: Identification

1.1. Identification

Product name : 1,2-BIS(TRIMETHYLSILYL)ETHYLENE, 90%
Product code : SIB1857.9
Product form : Substance
Physical state : Liquid
Formula : C8H20Si2
Chemical family : ORGANOSILANE

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
Flammable liquids Category 3 H226 Flammable liquid and vapor
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US) :

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.
P233 - Keep container tightly closed.
P308 - 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.
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/foam
P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish.
P403+P235 - Keep in a cool place
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)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : 1,2-BIS(TRIMETHYLSILYL)ETHYLENE, 90%
CAS-No. : 1473-61-6/18178-60-4
1,2-BIS(TRIMETHYLSILYL)ETHYLENE, 90%
Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Bis(trimethylsilyl)ethylene</td>
<td>(CAS-No.) 1473-61-6/18178-60-4</td>
<td>90 - 100</td>
<td>Flam. Liq. 3, H226</td>
</tr>
</tbody>
</table>

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. IF exposed or concerned: Get medical advice/attention.

**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 a unconscious person. Get medical advice/attention.

#### 4.2. Most important symptoms and effects (acute and delayed)

<table>
<thead>
<tr>
<th>Effects after inhalation</th>
<th>Symptoms after inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>May cause irritation to the respiratory tract.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effects after skin contact</th>
<th>Symptoms after skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>May cause skin irritation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effects after eye contact</th>
<th>Symptoms after eye contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>May cause eye irritation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effects after ingestion</th>
<th>Symptoms after ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information available.</td>
<td></td>
</tr>
</tbody>
</table>

#### 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**

**Unsuitable extinguishing media**
- Do not use straight streams.

#### 5.2. Specific hazards arising from the chemical

**Fire hazard**
- Flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to water or open flame.

#### 5.3. Special protective equipment and precautions for fire-fighters

**Firefighting instructions**
- Use water spray to cool exposed surfaces. 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.

**For non-emergency personnel**
- Wear protective equipment as described in Section 8.

**Emergency procedures**
- Evacuate unnecessary personnel.

**For emergency responders**
- 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. 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/sparks/open flames/hot surfaces. - No smoking.
- **Precautions for safe handling:** Avoid all eye and skin contact and do not breathe vapor and mist. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Use only non-sparking tools.
- **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:** Use explosion-proof electrical equipment.
- **Storage conditions:** Keep container tightly closed. Keep in a cool place.
- **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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>172.42 g/mol</td>
</tr>
<tr>
<td>Color</td>
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</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.4374</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
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</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
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<tr>
<td>Boiling point</td>
<td>156 - 158 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable liquid and vapor</td>
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<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>&gt; 1</td>
</tr>
</tbody>
</table>
1,2-BIS(TRIMETHYLSILYL)ETHYLENE, 90%
Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td>0.759</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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
No additional information available

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

10.5. Incompatible materials
Oxidizing agent.

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**: 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
- **Aspiration hazard**: Not classified
- **Symptoms/effects after inhalation**: May cause irritation to the respiratory tract.
- **Symptoms/effects after skin contact**: May cause 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
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
1,2-BIS(TRIMETHYLSILYL)ETHYLENE, 90%
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12.5. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.
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 : 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) : 1993
DOT NA no. : UN1993

14.2. UN proper shipping name

Transport document description : UN1993 Flammable liquids, n.o.s. (1,2-BIS(TRIMETHYLSILYL)ETHYLENE), 3, III
Proper Shipping Name (DOT) : Flammable liquids, n.o.s. (1,2-BIS(TRIMETHYLSILYL)ETHYLENE)
Class (DOT) : 3 - Class 3 : Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 3 - Flammable liquid

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

14.3. Additional information

Emergency Response Guide (ERG) Number : 128
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

1,2-BIS(TRIMETHYLSILYL)ETHYLENE, 90% (1473-61-6/18178-60-4)

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.

1,2-Bis(trimethylsilyl)ethylene (1473-61-6/18178-60-4)

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

Print date: 04/12/2019    EN (English US)    SDS ID: SIB1857.9
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15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

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:

<table>
<thead>
<tr>
<th>H-Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>Flammable liquid and vapor</td>
</tr>
</tbody>
</table>

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.

Hazard Rating

- Health: 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F, as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)
- 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.

Date of issue: 09/03/2015
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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