# 1,2-BIS(METHYLDICHLOROSILYL)ETHANE

**Safety Data Sheet**

Date of issue: 08/17/2015  
Version: 1.0

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Substance name</th>
<th>Formula</th>
<th>Synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>1,2-BIS(METHYLDICHLOROSILYL)ETHANE</td>
<td>C₄H₁₀Cl₄Si₂</td>
<td>2,2,5,5-TETRACHLORO-2,5-DISILAHEXANE; 1,4-DIMETHYL-1,1,4,4-TETRACHLOROCHLORO-1,4-DISILETHYLENE</td>
</tr>
</tbody>
</table>

### 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

**Classification (GHS-US)**
- Skin Corr.: 1B H314
- Eye Dam.: 1 H318

Full text of H-phrases: see section 16

### 2.2. Label elements

**GHS-US labeling**

Signal word (GHS-US): Danger

Hazard statements (GHS-US):  
- H314 - Causes severe skin burns and eye damage  
- H318 - Causes serious eye damage

Precautionary statements (GHS-US):  
- P280 - Wear protective gloves/protective clothing/eye protection/face protection  
- P260 - Do not breathe dust  
- P264 - Wash hands thoroughly after handling  
- P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
- P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower  
- 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  
- P310 - Immediately call a doctor  
- P363 - Wash contaminated clothing before reuse  
- P405 - Store locked up  
- 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
1,2-BIS(METHYLDICHLOROSILYL)ETHANE
Safety Data Sheet

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Substance type</th>
<th>CAS No</th>
<th>EC no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Bis(methylidichlorosilyl)ethane</td>
<td>Mono-constituent</td>
<td>3353-69-3</td>
<td>222-123-0</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>(CAS No) 7647-01-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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. 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 immediate 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 immediate medical advice/attention.

First-aid measures after ingestion
Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation
May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.

Symptoms/injuries after skin contact
Causes (severe) skin burns.

Symptoms/injuries after eye contact
Causes serious eye damage.

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

Unsuitable extinguishing media
Water.

5.2. Special hazards arising from the substance or mixture

Fire hazard
Irritating fumes of hydrochloric acid and organic acid vapors may develop when material is exposed to water or open flame.

5.3. Advice for firefighters

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 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.

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.

08/17/2015 EN (English US) SDS ID: SIB1614.0 2/7
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. Provide local exhaust or general room ventilation to minimize exposure to dust.

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

Storage conditions: Keep container tightly closed.


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

<table>
<thead>
<tr>
<th>Hydrochloric acid (7647-01-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH NIOSH REL (ceiling) (mg/m³)</td>
<td>2 ppm</td>
</tr>
<tr>
<td>USA NIOSH NIOSH REL (ceiling) (ppm)</td>
<td>7 mg/m³</td>
</tr>
<tr>
<td>USA OSHA OSHA PEL (Ceiling) (mg/m³)</td>
<td>5 ppm</td>
</tr>
<tr>
<td>USA IDLH US IDLH (ppm)</td>
<td>7 mg/m³</td>
</tr>
<tr>
<td>USA OSHA OSHA PEL (Ceiling) (ppm)</td>
<td>5 ppm</td>
</tr>
<tr>
<td>USA OSHA OSHA PEL (ceiling) (mg/m³)</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

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 or face shield. 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/acid gas (yellow 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>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>256.11 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Off-white</td>
</tr>
<tr>
<td>Odor</td>
<td>Acrid</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.476</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>31 - 33 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>208 - 210 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>94 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
1,2-BIS(METHYLDICHLOROSILYL)ETHANE
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Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: No data available
Relative vapor density at 20 °C: > 1
Relative density: 1.2628
Solubility: 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 stored under a dry inert atmosphere.

10.3. Possibility of hazardous reactions
Reacts with water and moisture in air, liberating hydrogen chloride.

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

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

**Hydrochloric acid (7647-01-0)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>238 - 277 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 5010 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>1.68 mg/l (Exposure time: 1 h)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>238.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>1.680 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>1.680 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

**Hydrochloric acid (7647-01-0)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
<td>3 - Not classifiable</td>
</tr>
</tbody>
</table>

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 skin contact: Causes (severe) skin burns.

Symptoms/injuries after eye contact: Causes serious eye damage.
# 1,2-BIS(METHYLDICHLOROSILYL)ETHANE Safety Data Sheet

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 12: Ecological Information</strong></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity</td>
<td>No additional information available</td>
</tr>
<tr>
<td>12.2. Persistence and degradability</td>
<td>No additional information available</td>
</tr>
<tr>
<td>12.3. Bioaccumulative potential</td>
<td>No additional information available</td>
</tr>
<tr>
<td>12.4. Mobility in soil</td>
<td>No additional information available</td>
</tr>
<tr>
<td>12.5. Other adverse effects</td>
<td>Other adverse effects: This substance may be hazardous to the environment.</td>
</tr>
<tr>
<td></td>
<td>Effect on ozone layer: No additional information available</td>
</tr>
<tr>
<td></td>
<td>Effect on the global warming: No known ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 13: Disposal Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13.1. Waste treatment methods</td>
<td></td>
</tr>
<tr>
<td>Sewage disposal recommendations</td>
<td>Do not dispose of waste into sewer.</td>
</tr>
<tr>
<td>Waste disposal recommendations</td>
<td>Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.</td>
</tr>
<tr>
<td>Ecology - waste materials</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 14: Transport Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>UN-No.(DOT): 2987</td>
</tr>
<tr>
<td></td>
<td>DOT NA no.: UN2987</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Proper Shipping Name (DOT): Chlorosilanes, corrosive, n.o.s. (1,2-BIS(METHYLDICHLOROSILYL)ETHANE)</td>
</tr>
<tr>
<td></td>
<td>Department of Transportation (DOT) Hazard Classes: 8 - Class 8 - Corrosive material 49 CFR 173.136</td>
</tr>
<tr>
<td></td>
<td>Hazard labels (DOT): 8 - Corrosive</td>
</tr>
<tr>
<td></td>
<td>Packing group (DOT): II - Medium Danger</td>
</tr>
<tr>
<td></td>
<td>DOT Packaging Exceptions (49 CFR 173.xxx): None</td>
</tr>
<tr>
<td></td>
<td>DOT Packaging Non Bulk (49 CFR 173.xxx): 206</td>
</tr>
<tr>
<td></td>
<td>DOT Packaging Bulk (49 CFR 173.xxx): 242</td>
</tr>
<tr>
<td>14.3. Additional information</td>
<td>Other information: No supplementary information available.</td>
</tr>
<tr>
<td>Transport by sea</td>
<td>DOT Vessel Stowage Location: C - The material must be stowed “on deck only” on a cargo vessel and on a passenger vessel.</td>
</tr>
<tr>
<td></td>
<td>DOT Vessel Stowage Other: 40 - Stow “clear of living quarters”</td>
</tr>
<tr>
<td>Air transport</td>
<td>DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): Forbidden</td>
</tr>
<tr>
<td></td>
<td>DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 30 L</td>
</tr>
</tbody>
</table>

| Section 15: Regulatory Information | |
| 15.1. US Federal regulations | |
1,2-Bis(methyldichlorosilyl)ethane (3353-69-3)

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

Listed on the United States SARA Section 302

Listed on United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ): 500 (gas only)

SARA Section 313 - Emission Reporting: 1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Hydrochloric acid (7647-01-0)

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

Listed on the United States SARA Section 302

Listed on United States SARA Section 313

15.2. International regulations

Hydrochloric acid (7647-01-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Substances List)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the EU EINECS (European Inventory of Existing Commercial Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on the New Zealand Inventory of Chemicals (NZIoC)

Listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS)

Listed on the United States SARA Section 302 Threshold Quantity (TPQ): 500 (gas only)

Listed on United States SARA Section 313 - Emission Reporting: 1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

15.3. US State regulations

1,2-Bis(methyldichlorosilyl)ethane (3353-69-3)

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

Hydrochloric acid (7647-01-0)

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

No significance risk level (NSRL)

1,2-Bis(methyldichlorosilyl)ethane (3353-69-3)

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

No significance risk level (NSRL)

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:

| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Skin Corr. 1A | Skin corrosion/irritation Category 1A |
| Skin Corr. 1B | Skin corrosion/irritation Category 1B |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |

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.

Date of issue: 08/17/2015    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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