## SECTION 1: Identification

### 1.1. Identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>BIS(CHLOROMETHYL)DIMETHYLGERMANE, 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>GEB1050</td>
</tr>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Formula</td>
<td>C4H10Cl2Ge</td>
</tr>
<tr>
<td>Synonyms</td>
<td>1,3-DICHLORO-2,2-DIMETHYL-2-GERMA-PROPANE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOGERMANIUM</td>
</tr>
</tbody>
</table>

### 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
  - Skin corrosion/irritation Category 2: H315 Causes skin irritation
  - Serious eye damage/eye irritation Category 2A: H319 Causes serious eye irritation

- **Full text of H statements**: see section 16

### 2.2. GHS Label elements, including precautionary statements

- **GHS US labeling**
  - **Hazard pictograms (GHS US)**:
    - Flammable liquid
    - Eye irritation

- **Signal word (GHS US)**: Warning

- **Hazard statements (GHS US)**:
  - H226 - Flammable liquid and vapor
  - H315 - Causes skin irritation
  - 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+P338 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower
  - P332+P313 - If skin irritation occurs: Get medical advice/attention.
  - 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.
  - 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

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS-No.</th>
<th>Product identifier (CAS-No.)</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-constituent</td>
<td>Bis(CHLOROMETHYL)DIMETHYLGERMANE, 95%</td>
<td>21581-91-9</td>
<td>(CAS-No.) 21581-91-9</td>
<td>95-100</td>
<td>Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td>Dichloromethyltrimethylgermane</td>
<td>19272-94-7</td>
<td>(CAS-No.) 19272-94-7</td>
<td>0-5</td>
<td>Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319</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.

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 (acute and delayed)

Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes skin irritation.
Symptoms/effects after eye contact: Causes serious eye irritation.
Symptoms/effects after ingestion: No information available.

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


Unsuitable extinguishing media: None known.

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 elevated temperatures 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: Eliminate ignition sources. 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”.

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. 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. Appropriate engineering controls
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**Appropriate engineering controls:** Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment
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**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 - gas (yellow 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:** 201.62 g/mol

**Color:** Straw.

**Odor:** Mild.
BIS(CHLOROMETHYL)DIMETHYLGERMANE, 95%
Safety Data Sheet

 Odor threshold : No data available
 Refractive index : 1.481
 pH : No data available
 Relative evaporation rate (butyl acetate=1) : No data available
 Melting point : No data available
 Freezing point : < 0 °C
 Boiling point : 174 - 175 °C
 Flash point : 51 °C
 Auto-ignition temperature : No data available
 Decomposition temperature : No data available
 Flammability (solid, gas) : Flammable liquid and vapor
 Vapor pressure : No data available
 Relative vapor density at 20 °C : > 1
 Relative density : 1.382
 Solubility : Insoluble in 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
No additional information available

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
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 : 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 : Causes skin irritation.
BIS(CHLOROMETHYL)DIMETHYLGERMANE, 95%
Safety Data Sheet

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

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 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: 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): 1993
DOT NA no.: UN1993

14.2. UN proper shipping name
Transport document description: UN1993 Flammable liquids, n.o.s. (BIS(CHLOROMETHYL)DIMETHYLGERMANE), 3, III
Proper Shipping Name (DOT): Flammable liquids, n.o.s. (BIS(CHLOROMETHYL)DIMETHYLGERMANE)
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
BIS(CHLOROMETHYL)DIMETHYLGERMANE, 95%
Safety Data Sheet

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>TSCA Exemption/Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS(CHLOROMETHYL)DIMETHYLGERMANE, 95% (21581-91-9)</td>
<td>CAUTION: This material is supplied for research and development purposes subject to the R&amp;D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a &quot;technically qualified individual&quot; as defined by 40 CFR 720.3(ee). The use of this material for &quot;commercial purposes&quot; as defined by 40 CFR 720.3(r) is not permitted in the United States.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>TSCA Exemption/Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(chloromethyl)dimethylgermane (21581-91-9)</td>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>Dichloromethyltrimethylgermane (19272-94-7)</td>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

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>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>

Abbreviations and acronyms:

- ND: Not Determined, No Data
- LD: Lethal Dose
- LC: Lethal Concentration
- ATE: Acute Toxicity Estimates
- H: hour
- °C: °C unless otherwise stated
- mmHg: 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: 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

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.

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