

**BENZYLTRICHLOROGERMANE****Safety Data Sheet GEB0969**

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Version: 2.0

**SECTION 1: Identification****1.1. Identification**

|                 |                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------|
| Product name    | : BENZYLTRICHLOROGERMANE                                                                            |
| Product code    | : GEB0969                                                                                           |
| Product form    | : Substance                                                                                         |
| Physical state  | : Solid                                                                                             |
| Formula         | : C7H7Cl3Ge                                                                                         |
| Synonyms        | : BENZYLGERMANIUMTRICHLORIDE<br>TRICHLORO(PHENYLMETHYL)GERMANE<br>GERMANE, TRICHLORO(PHENYLMETHYL)- |
| Chemical family | : GERMANIUM CHLORIDE                                                                                |

**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](mailto:info@gelest.com) - [www.gelest.com](http://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**

|                                              |                                              |
|----------------------------------------------|----------------------------------------------|
| Skin corrosion/irritation Category 1B        | H314 Causes severe skin burns and eye damage |
| Serious eye damage/eye irritation Category 1 | H318 Causes serious eye damage               |
| 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)

: 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.  
P321 - Specific treatment (see first aid instructions on this label)  
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

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### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Multi-constituent  
Name : BENZYLTRICHLOROGERMANE  
CAS-No. : 6181-21-1

| Name                   | Product identifier  | %        | GHS-US classification                   |
|------------------------|---------------------|----------|-----------------------------------------|
| Benzyltrichlorogermane | (CAS-No.) 6181-21-1 | 97 - 100 | Skin Corr. 1B, H314<br>Eye Dam. 1, H318 |
| Other Organogermanes   |                     | 0 - 3    | Not classified                          |

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 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.

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

Symptoms/effects : Causes severe skin burns and eye damage.

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

Symptoms/effects after skin contact : Causes (severe) skin burns.

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

Symptoms/effects after ingestion : May be harmful if swallowed.

#### 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 : Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : Water.

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

Fire hazard : Irritating fumes of hydrogen chloride 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 : 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.

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.

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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. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust.

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. Store locked up.

Incompatible materials : Bases. Moisture. Reducing agents. Water.

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 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 dust and mist (orange cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Solid.

Molecular mass : 272.12 g/mol

Color : Off-white.

Odor : Characteristic.

Odor threshold : No data available

Refractive index : No data available

pH : No data available

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

Melting point : 35 - 37 °C

Freezing point : No data available

Boiling point : 111 - 118 °C @ 18 mm Hg

Flash point : > 65 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

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|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Vapor pressure                  | : No data available                             |
| Relative vapor density at 20 °C | : > 1                                           |
| Relative density                | : > 1                                           |
| 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 in sealed containers.

### 10.3. Possibility of hazardous reactions

Contact with water or moisture slowly generates hydrogen chloride.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Bases. Moisture. Reducing agents. Water.

### 10.6. Hazardous decomposition products

Hydrogen chloride. Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                                                                                                                        |                                                  |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Acute toxicity                                                                                                         | : Not classified                                 |
| 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                                 |
| 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/effects after inhalation                                                                                      | : May cause irritation to the respiratory tract. |
| Symptoms/effects after skin contact                                                                                    | : Causes (severe) skin burns.                    |
| Symptoms/effects after eye contact                                                                                     | : Causes serious eye damage.                     |
| Symptoms/effects after ingestion                                                                                       | : May be harmful if swallowed.                   |
| 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

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### 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 : 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) : 1759  
DOT NA no. UN1759

### 14.2. UN proper shipping name

Transport document description : UN1759 Corrosive solids, n.o.s. (BENZYLTRICHLOROGERMANE), 8, III  
Proper Shipping Name (DOT) : Corrosive solids, n.o.s.  
(BENZYLTRICHLOROGERMANE)  
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136  
Packing group (DOT) : III - Minor Danger  
Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 213  
DOT Packaging Bulk (49 CFR 173.xxx) : 240  
DOT Packaging Exceptions (49 CFR 173.xxx) : 154  
DOT Symbols : G - Identifies PSN requiring a technical name

### 14.3. Additional information

Emergency Response Guide (ERG) Number : 154  
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) : 25 kg  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### BENZYLTRICHLOROGERMANE (6181-21-1)

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.

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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

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::

|      |                                         |
|------|-----------------------------------------|
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage               |

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 : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

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 : 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.

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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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