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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Substance name</td>
<td>TRIISOPROPYLCHLOROGERMANE</td>
</tr>
<tr>
<td>Product code</td>
<td>GET8383</td>
</tr>
<tr>
<td>Formula</td>
<td>C9H21ClGe</td>
</tr>
<tr>
<td>Synonyms</td>
<td>TRIISOPROPYLGERMANIUM CHLORIDE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOCHLOROGERMANE</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture: Chemical intermediate

1.2.2. Uses advised against

No additional information available

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

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestde.com - www.gelestde.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 according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
<th>H314</th>
<th>H318</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Element</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard pictograms (CLP)</td>
<td>GHS05</td>
</tr>
</tbody>
</table>

Signal word (CLP): Danger

Hazard statements (CLP): H314 - Causes severe skin burns and eye damage.

TRIISOPROPYLCHLOROGERMANE
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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.
P310 - Immediately call a POISON CENTER or doctor/physician

EUH-statements : EUH014 - Reacts violently with water.

2.3. Other hazards
Other hazards not contributing to the classification : Hydrogen chloride may be formed by reaction with water and moisture in air. The US OSHA PEL (TWA) for hydrogen chloride is 5 ppm.

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type : Multi-constituent
Name : TRIISOPROPYLCHLOROGERMANE
CAS-No. : 2816-54-8

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triisopropylchlorogermane</td>
<td>(CAS-No.) 2816-54-8</td>
<td>95</td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td>Other Organogermaniums</td>
<td></td>
<td>0</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of 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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of 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, both acute and delayed
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. 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 : Water.

5.2. Special hazards arising from the substance or mixture
Fire hazard : Combustible liquid. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures 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 all eye and skin contact and do not breathe vapour 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.

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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. 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

Storage conditions: Keep container tightly closed. Keep in a cool place. Store locked up.

Incompatible materials: Water.

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

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 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>
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<td>Appearance</td>
<td>Clear liquid</td>
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<tr>
<td>Molecular mass</td>
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<tr>
<td>Colour</td>
<td>Straw</td>
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<tr>
<td>Odour</td>
<td>Acrid. Similar to hydrogen chloride.</td>
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<tr>
<td>Odour threshold</td>
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<td>Refractive index</td>
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<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=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>
</tr>
<tr>
<td>Boiling point</td>
<td>120 - 122 °C @ 30 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>66 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
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<tr>
<td>Flammability (solid, gas)</td>
<td>Combustible liquid</td>
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<td>Vapour pressure</td>
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<tr>
<td>Relative vapour density at 20 °C</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Solubility</td>
<td>Insoluble in water. Reacts with water.</td>
</tr>
<tr>
<td>Log Pow</td>
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<tr>
<td>Log Kow</td>
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<tr>
<td>Oxidising properties</td>
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<tr>
<td>Explosive limits</td>
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</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.

10.3. Possibility of hazardous reactions
Slowly reacts with water to form hydrogen chloride.

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

10.5. Incompatible materials
Water.

10.6. Hazardous decomposition products

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 sensitisation**: Not classified
- **Germ cell mutagenicity**: Not classified
- **Carcinogenicity**: Not classified
- **Reproductive toxicity**: Not classified
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SECTION 1: Identification

1.1. Identification

1.2. Synonyms

1.3. Other information

SECTION 2: Hazard(s) identification

2.1. Classification and labeling

2.1.1. pictograms

2.1.2. pictogram(s)

2.1.3. signals word(s)

2.1.4. hazard statement(s)

2.2. Precautionary statements

2.2.1. precautionary statements

2.2.2. first-aid measures

2.2.3. firefighting measures

2.2.4. accidental release measures

2.2.5. handling and storage

2.2.6. exposure controls/Personal protective equipment

2.2.7. other requirements

SECTION 3: Hazards identification

3.1. Physical and chemical properties

3.2. Stability and reactivity

3.3. Hazardous decomposition products

3.4. Incompatibilities

3.5. Hazardous reactions

3.6. Conditions for safe storage, handling and use

3.7. Extinguishing media

3.8. Protective equipment

SECTION 4: First-aid measures

4.1. General measures

4.2. Specific measures

4.3. Medical measures

4.4. First aid measures

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

5.2. Special hazards

SECTION 6: Accidental release measures

6.1. Spill response

6.2. Clean-up procedures

6.3. Protective measures

SECTION 7: Handling and storage

7.1. Precautions

7.2. Safe handling

7.3. Storage

7.4. Incompatible materials

7.5. Hazardous waste

SECTION 8: Exposure controls and personal protective equipment

8.1. Exposure controls

8.2. Personal protective equipment

SECTION 9: Physical and chemical properties

9.1. Physical properties

9.2. Chemical properties

SECTION 10: Stability and reactivity

10.1. Stability

10.2. Reactivity

10.3. Hazardous decomposition products

SECTION 11: Hazardous decomposition products

11.1. Potential health effects

SECTION 12: Toxicological information

12.1. Acute toxicity

12.2. Chronic toxicity

12.3. Skin effects

12.4. Eye effects

12.5. Ingestion effects

SECTION 13: Ecological information

13.1. Toxicity

13.2. Persistence and degradability

13.3. Bioaccumulative potential

13.4. Mobility in soil

13.5. Results of PBT and vPvB assessment

13.6. Other adverse effects

SECTION 14: Transport information

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8

Consult current regulations for specific transportation requirements.
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<table>
<thead>
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<th>Danger labels (ADR)</th>
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<td>Danger labels (IMDG)</td>
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<tr>
<td>Danger labels (ADN)</td>
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<tr>
<td>Danger labels (RID)</td>
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14.4. Packing group

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<tbody>
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<td>: II</td>
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<td>Packing group (IATA)</td>
<td>: II</td>
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<tr>
<td>Packing group (ADN)</td>
<td>: II</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>: II</td>
</tr>
</tbody>
</table>

14.5. Environmental hazards

| Dangerous for the environment | : No |
| Marine pollutant              | : No |
| Other information             | : No supplementary information available |
14.6. Special precautions for user

- Overland transport
  Classification code (ADR) : C9
  Special provisions (ADR) : 274
  Limited quantities (ADR) : 1 L
  Excepted quantities (ADR) : E2
  Packing instructions (ADR) : P001, IBC02
  Mixed packing provisions (ADR) : MP15
  Portable tank and bulk container instructions (ADR) : T11
  Portable tank and bulk container special provisions (ADR) : TP2, TP27
  Tank code (ADR) : L4BN
  Vehicle for tank carriage : AT
  Transport category (ADR) : 2
  Hazard identification number (Kemler No.) : 80
  Orange plates

  Tunnel restriction code (ADR) : E
  EAC code : 2X
  APP code : B

- Transport by sea
  Special provisions (IMDG) : 274
  Limited quantities (IMDG) : 1 L
  Excepted quantities (IMDG) : E2
  Packing instructions (IMDG) : P001
  IBC packing instructions (IMDG) : IBC02
  Tank instructions (IMDG) : T11
  Tank special provisions (IMDG) : TP2, TP27
  EmS-No. (Fire) : F-A
  EmS-No. (Spillage) : S-B
  Stowage category (IMDG) : B
  Stowage and handling (IMDG) : SW2
  Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

- Air transport
  PCA Excepted quantities (IATA) : E2
  PCA Limited quantities (IATA) : Y840
  PCA limited quantity max net quantity (IATA) : 0.5L
  PCA packing instructions (IATA) : 851
  PCA max net quantity (IATA) : 1L
  CAO packing instructions (IATA) : 855
  CAO max net quantity (IATA) : 30L
  Special provisions (IATA) : A3
  ERG code (IATA) : 8L

- Inland waterway transport
  Classification code (ADN) : C9
  Special provisions (ADN) : 274
  Limited quantities (ADN) : 1 L
  Excepted quantities (ADN) : E2
  Carriage permitted (ADN) : T
  Equipment required (ADN) : PP, EP
  Number of blue cones/lights (ADN) : 0

- Rail transport
  Classification code (RID) : C9
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<table>
<thead>
<tr>
<th>Special provisions (RID)</th>
<th>: 274</th>
</tr>
</thead>
<tbody>
<tr>
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<td>: 1L</td>
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<tr>
<td>Excepted quantities (RID)</td>
<td>: E2</td>
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<tr>
<td>Packing instructions (RID)</td>
<td>: P001, IBC02</td>
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<tr>
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<td>: TP2, TP27</td>
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<td>Tank codes for RID tanks (RID)</td>
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<td>Transport category (RID)</td>
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<td>Colis express (express parcels) (RID)</td>
<td>: CE6</td>
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<tr>
<td>Hazard identification number (RID)</td>
<td>: 80</td>
</tr>
</tbody>
</table>

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
TRIISOPROPYLCHLOROGERMANE is not on the REACH Candidate List
TRIISOPROPYLCHLOROGERMANE is not on the REACH Annex XIV List
TRIISOPROPYLCHLOROGERMANE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands
SZW-lijst van kankerverwekkende stoffen: The substance is not listed
SZW-lijst van mutagene stoffen: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling: The substance is not listed

Denmark
Class for fire hazard: Class III-1
Store unit: 50 liter
Classification remarks: Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations: Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

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
### TRIISOPROPYLCHLOROGERMANE

**Safety Data Sheet**

**Other information**

- Prepared by safety and environmental affairs.

**Full text of H- and EUH-statements:**

<table>
<thead>
<tr>
<th>H- or EUH- Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation, Category 1B</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>EUH014</td>
<td>Reacts violently with water.</td>
</tr>
</tbody>
</table>

---

**SDS EU (REACH Annex II) - Custom**

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

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