

**TRIETHYLGERMANE****Safety Data Sheet GET8300**

Date of issue: 05/04/2017

Version: 1.0

**SECTION 1: Identification****1.1. Product identifier**

|                 |                                     |
|-----------------|-------------------------------------|
| Product name    | : TRIETHYLGERMANE                   |
| Product code    | : GET8300                           |
| Product form    | : Substance                         |
| Physical state  | : Liquid                            |
| Formula         | : C <sub>6</sub> H <sub>16</sub> Ge |
| Synonyms        | : TRIETHYLGERMYL HYDRIDE            |
| Chemical family | : ORGANOGERMANE                     |

**1.2. Recommended use of the chemical and restrictions on use**

|                 |                                                  |
|-----------------|--------------------------------------------------|
| Recommended use | : Chemical intermediate<br>For research 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](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**

Flammable liquids Category 2 H225

Full text of H statements : see section 16

**2.2. Label elements****GHS-US labeling**

Hazard pictograms (GHS-US)



GHS02

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly 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  
 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  
 P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower  
 P370+P378 - In case of fire: Use water spray or fog, 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)**

No data available

# TRIETHYLGERMANE

## Safety Data Sheet

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent  
Name : TRIETHYLGERMANE  
CAS-No. : 1188-14-3

| Name            | Product identifier  | %        | GHS-US classification |
|-----------------|---------------------|----------|-----------------------|
| Triethylgermane | (CAS-No.) 1188-14-3 | 95 - 100 | Flam. Liq. 2, H225    |

Full text of hazard classes and H-statements : see section 16

#### 3.2. Mixtures

Not applicable

#### 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, both acute and delayed

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.

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

Unsuitable extinguishing media : Do not use straight streams.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to high temperatures or open flame.

Explosion hazard : May form flammable/explosive vapor-air mixture.

#### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

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 every possible source of ignition. 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.

# TRIETHYLGERMANE

## Safety Data Sheet

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. 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 : Handle empty containers with care because residual vapors are flammable. 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.

Incompatible materials : Store away from alkalis, oxidizers, metal salts, precious metals, chlorine, bromine.

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. 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. 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

Physical state : Liquid

Appearance : Clear liquid.

Molecular mass : 160.78 g/mol

Color : No data available

Odor : No data available

Odor threshold : No data available

Refractive index : 1.4382

pH : No data available

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

Melting point : < 0 °C

Freezing point : No data available

Boiling point : 122 - 123 °C

Flash point : 5 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : Highly flammable liquid and vapor

Vapor pressure : No data available

Relative vapor density at 20 °C : > 1

Relative density : 1.004

VOC content : > 95 %

Solubility : Insoluble in water.

# TRIETHYLGERMANE

## Safety Data Sheet

|                      |                     |
|----------------------|---------------------|
| 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 under dry inert atmosphere.

### 10.3. Possibility of hazardous reactions

The product can generate small amounts of hydrogen when exposed to alkalis and protic materials such as water and alcohol in combination with metal salts such as aluminum chloride or precious metals such as platinum.

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Store away from alkalis, oxidizers, metal salts, precious metals, chlorine, bromine.

### 10.6. Hazardous decomposition products

Carbon monoxide. Germanium dioxide. Formaldehyde. Hydrogen. 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 |

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 |
| STOT-single exposure  | : Not classified |

|                                     |                                                  |
|-------------------------------------|--------------------------------------------------|
| STOT-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

# TRIETHYLGERMANE

## Safety Data Sheet

### 12.5. Other adverse effects

|                              |                                                       |
|------------------------------|-------------------------------------------------------|
| Other adverse effects        | : This substance may be hazardous to the environment. |
| Effect on ozone layer        | : No additional information available                 |
| Effect on the global warming | : No known effects from this product.                 |
| GWPmix comment               | : No known effects from this product.                 |

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                            |                                                                                                                                                          |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sewage disposal recommendations            | : Do not dispose of waste into sewer.                                                                                                                    |
| Product/Packaging disposal recommendations | : Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility. |
| Additional information                     | : Handle empty containers with care because residual vapors are flammable.                                                                               |
| 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. (TRIETHYLGERMANE), 3, II     |
| Proper Shipping Name (DOT)     | : Flammable liquids, n.o.s.<br>(TRIETHYLGERMANE)                |
| Class (DOT)                    | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Packing group (DOT)            | : II - Medium Danger                                            |
| Hazard labels (DOT)            | : 3 - Flammable liquid                                          |

|                                           |                                                 |
|-------------------------------------------|-------------------------------------------------|
| DOT Packaging Non Bulk (49 CFR 173.xxx)   | : 202                                           |
| 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 | : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded. |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Air transport

|                                                                     |        |
|---------------------------------------------------------------------|--------|
| DOT Quantity Limitations Passenger aircraft/rail<br>(49 CFR 173.27) | : 5 L  |
| DOT Quantity Limitations Cargo aircraft only (49<br>CFR 175.75)     | : 60 L |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### TRIETHYLGERMANE (1188-14-3)

|                          |                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# TRIETHYLGERMANE

## Safety Data Sheet

### Triethylgermane (1188-14-3)

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

No additional information available

## SECTION 16: Other information

Full text of H-phrases::

H225

Highly flammable liquid and vapor

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.

### Hazard Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

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.

Date of issue: 05/04/2017

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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