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

### 1.1. Product identifier
- **Product form**: Substance
- **Physical state**: Liquid
- **Substance name**: TETRAKIS(DIMETHYLAMINO)GERMANE
- **Product code**: GET7277
- **Formula**: C8H24N4Ge
- **Synonyms**: TETRAKIS(DIMETHYLAMIDO)GERMANE
- **Chemical family**: ORGANOGERMANE

### 1.2. Relevant identified uses of the substance or mixture and uses advised against
- **Use of the substance/mixture**: Chemical intermediate
  - 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 - 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)**
  - Flam. Liq. 3 H226
  - Skin Irrit. 2 H315
  - Eye Irrit. 2A H319
- **Full text of H-phrases: see section 16**

### 2.2. Label elements
- **GHS-US labeling**
- **Signal word (GHS-US)**: Warning
- **Hazard pictograms (GHS-US)**: GHS02, GHS07
- **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
  - P264 - Wash hands thoroughly after handling
  - 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+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
  - P362 - Take off contaminated clothing and wash 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
TETRAKIS(DIMETHYLAMINO)GERMANE
Safety Data Sheet

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-US)
No data available

SECTION 3: Composition/information on ingredients

3.1. Substance
Substance type
Mono-constituent

Name
TETRAKIS(DIMETHYLAMINO)GERMANE

CAS No
7344-40-3

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier (CAS No)</th>
<th>%</th>
<th>Classification (GHS-US)</th>
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</thead>
<tbody>
<tr>
<td>Tetrakis(dimethylamino)germane</td>
<td>7344-40-3</td>
<td>&gt; 95</td>
<td>Flam. Liq. 3, H226</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</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.

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

Symptoms/injuries after skin contact
Causes skin irritation.

Symptoms/injuries after eye contact
Causes serious eye irritation.

Symptoms/injuries 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
Suitable extinguishing media

5.2. Special hazards arising from the substance or mixture

Fire hazard
Flammable liquid and vapor. Irritating fumes of dimethylamine 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. 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
Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Emergency procedures
Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment
Equip cleanup crew with proper 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

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

Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Containers and transfer lines require grounding during use. Take precautionary measures against static discharge. 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

Technical measures: Ground/bond container and receiving equipment.

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

Tetrakis(dimethylamino)germane (7344-40-3)

<table>
<thead>
<tr>
<th>USA OSHA</th>
<th>OSHA PEL (TWA) (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 ppm (dimethylamine)</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. Contact lenses should not be worn.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: NIOSH-certified combination organic vapor - amine gas (brown 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: 248.89 g/mol

Color: Straw.

Odor: Acrid. Amine.

Odor threshold: No data available

Refractive index: 1.4141

pH: No data available

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

Melting point: No data available

Freezing point: < 14 °C

Boiling point: > 203 °C (decomposes)

Flash point: 34 °C

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Flammability (solid, gas): Flammable liquid and vapor

Vapor pressure: 15 mm Hg @ 88°C

Relative vapor density at 20 °C: > 1

Relative density: 1.07

Solubility: Reacts with water.
TETRAKIS(DIMETHYLAMINO)GERMANE
Safety Data Sheet

Log Pow
Log Kow
Viscosity, kinematic
Viscosity, dynamic
Explosive properties
Oxidizing properties
Explosive limits

No data available
No data available
No data available
No data available
No data available
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 dimethylamine.
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
Skin corrosion/irritation
Serious eye damage/irritation
Respiratory or skin sensitization
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single exposure)
Specific target organ toxicity (repeated exposure)
Aspiration hazard
Symptoms/injuries after inhalation
Symptoms/injuries after skin contact
Symptoms/injuries after eye contact
Symptoms/injuries after ingestion
Reason for classification

Not classified
Causes skin irritation.
Causes serious eye irritation.
Not classified
Not classified
Not classified
Not classified
Not classified
Not classified
May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.
Causes skin irritation.
Causes serious eye irritation.
May be harmful if swallowed.
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.
TETRAKIS(DIMETHYLAMINO)GERMANE
Safety Data Sheet

Effect on ozone layer: No additional information available
Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste 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) : 1993
DOT NA no. : UN1993

14.2. UN proper shipping name
Proper Shipping Name (DOT) : Flammable liquids, n.o.s. (TETRAKIS(DIMETHYLAMINO)GERMANE)
Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid

DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information
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

SECTION 15: Regulatory information

15.1. US Federal regulations
TETRAKIS(DIMETHYLAMINO)GERMANE (7344-40-3)

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.

Tetrakis(dimethylamino)germane (7344-40-3)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
No additional information available

15.3. US State regulations

TETRAKIS(DIMETHYLAMINO)GERMANE(7344-40-3)

U.S. - California - Proposition 65 - Carcinogens List: No
U.S. - California - Proposition 65 - Developmental Toxicity: No
### TETRAKIS(DIMETHYLAMINO)GERMANE (7344-40-3)

<table>
<thead>
<tr>
<th>Country</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significance risk level (NSRL)</th>
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<tbody>
<tr>
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### Tetraakis(dimethylamino)germane (7344-40-3)

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<th>Carcinogens List</th>
<th>Developmental Toxicity</th>
<th>Reproductive Toxicity - Female</th>
<th>Reproductive Toxicity - Male</th>
<th>No significance risk level (NSRL)</th>
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<tr>
<td>U.S. - California</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</table>

**SECTION 16: Other information**

**Abbreviations and acronyms**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD, LC, mmHg</td>
<td>Lethal Dose, Concentration, mm; Lethal Concentration; millimeters Hg, torr</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible exposure level</td>
</tr>
<tr>
<td>TWA</td>
<td>Time weighted average</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold limit value</td>
</tr>
<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>
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</tbody>
</table>

**HMIS III Rating**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Health</td>
<td>3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given</td>
</tr>
<tr>
<td>Flammability</td>
<td>3 Serious Hazard</td>
</tr>
<tr>
<td>Physical</td>
<td>1 Slight Hazard</td>
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</table>

**Prepared by safety and environmental affairs.**

**Date of issue:** 01/28/2015  
**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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