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

<table>
<thead>
<tr>
<th>1.1. Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product form</strong></td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
</tr>
<tr>
<td><strong>Substance name</strong></td>
</tr>
<tr>
<td><strong>Product code</strong></td>
</tr>
<tr>
<td><strong>Formula</strong></td>
</tr>
<tr>
<td><strong>Synonyms</strong></td>
</tr>
<tr>
<td><strong>Chemical family</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2. Relevant identified uses of the substance or mixture and uses advised against</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of the substance/mixture</strong></td>
</tr>
<tr>
<td><strong>For research and industrial use only</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3. Details of the supplier of the safety data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GELEST, INC.</strong></td>
</tr>
<tr>
<td>11 East Steel Road</td>
</tr>
<tr>
<td>Morrisville, PA 19067</td>
</tr>
<tr>
<td><strong>USA</strong></td>
</tr>
<tr>
<td>T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST</td>
</tr>
<tr>
<td><a href="mailto:info@gelest.com">info@gelest.com</a> - <a href="http://www.gelest.com">www.gelest.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.4. Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency number</strong></td>
</tr>
</tbody>
</table>

# SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>2.1. Classification of the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GHS-US classification</strong></td>
</tr>
<tr>
<td>Flam. Liq.</td>
</tr>
<tr>
<td>Skin Irrit.</td>
</tr>
<tr>
<td>Eye Dam.</td>
</tr>
<tr>
<td>STOT SE</td>
</tr>
<tr>
<td><strong>Full text of H-phrases:</strong> see section 16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.2. Label elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GHS-US labeling</strong></td>
</tr>
<tr>
<td>Hazard pictograms (GHS-US)</td>
</tr>
<tr>
<td><img src="image" alt="GHS02" /> <img src="image" alt="GHS05" /> <img src="image" alt="GHS07" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal word (GHS-US)</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard statements (GHS-US)</td>
<td>H226 - Flammable liquid and vapor</td>
</tr>
<tr>
<td></td>
<td>H315 - Causes skin irritation</td>
</tr>
<tr>
<td></td>
<td>H318 - Causes serious eye damage</td>
</tr>
<tr>
<td></td>
<td>H335 - May cause respiratory irritation</td>
</tr>
<tr>
<td>Precautionary statements (GHS-US)</td>
<td>P280 - Wear protective gloves/protective clothing/eye protection/face protection</td>
</tr>
<tr>
<td></td>
<td>P310 - Immediately call a doctor</td>
</tr>
<tr>
<td></td>
<td>P210 - Keep away from heat, open flames, sparks. - No smoking</td>
</tr>
<tr>
<td></td>
<td>P240 - Ground/bond container and receiving equipment</td>
</tr>
<tr>
<td></td>
<td>P241 - Use explosion-proof electrical equipment</td>
</tr>
<tr>
<td></td>
<td>P242 - Use only non-sparking tools</td>
</tr>
<tr>
<td></td>
<td>P243 - Take precautionary measures against static discharge</td>
</tr>
<tr>
<td></td>
<td>P261 - Avoid breathing vapors</td>
</tr>
<tr>
<td></td>
<td>P264 - Wash hands thoroughly after handling</td>
</tr>
<tr>
<td></td>
<td>P271 - Use only outdoors or in a well-ventilated area</td>
</tr>
<tr>
<td></td>
<td>P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing, rinse skin with water/shower</td>
</tr>
<tr>
<td></td>
<td>P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing</td>
</tr>
<tr>
<td></td>
<td>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</td>
</tr>
</tbody>
</table>
**TETRAKIS(DIMETHYLAMINO)SILANE**

Safety Data Sheet

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**2.3. Other hazards**

Other hazards not contributing to the classification:
Additional dimethylamine may be formed by reaction with moisture and water. The US OSHA PEL (TWA) for dimethylamine is 10 ppm.

**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)SILANE
- **CAS No**: 1624-01-7
- **EC no**: 216-611-2

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrakis(dimethylamino)silane</td>
<td>(CAS No) 1624-01-7</td>
<td>95 - 100</td>
<td>Flam. Liq. 3, H226 Skin Irit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335</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 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/injuries after inhalation**: May cause respiratory irritation.
- **Symptoms/injuries after skin contact**: Causes skin irritation.
- **Symptoms/injuries after eye contact**: Causes serious eye damage.
- **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**: Water spray. 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**: 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**: 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 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.

**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

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. Use only outdoors or in a well-ventilated area. 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. Store locked up.

#### Incompatible materials

- Acids.
- Alcohols.
- Oxidizing agent.

#### 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

- **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 - 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:** 204.39 g/mol
- **Color:** Straw.
TETRAKIS(DIMETHYLAMINO)SILANE
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Odor: Acrid. Amine.
Odor threshold: No data available
Refractive index: 1.4436
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: No data available
Freezing point: 15 - 16 °C
Boiling point: 74 - 75 °C @ 19 mm Hg
Flash point: 34 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Flammable liquid and vapor
Vapor pressure: < 5 mm Hg
Relative vapor density at 20 °C: > 1
Relative density: 0.8851
Solubility: Reacts 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 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
Dimethylamine. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

Tetraakis(dimethylamino)silane (1624-01-7)
LD50 oral rat: 1670 µl/kg
LD50 dermal rabbit: 1230 µl/kg

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye damage.
Eye Irritation - rabbit: 100 uL/24H: severe irritation effect
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): May cause respiratory irritation.
Specific target organ toxicity (repeated exposure): Not classified
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Aspiration hazard : Not classified
Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye damage.
Symptoms/injuries 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

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 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
Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : 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
Proper Shipping Name (DOT) : Flammable liquids, n.o.s. (TETRAKIS(DIMETHYLAMINO)SILANE)
Transport hazard class(es) (DOT) : 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
TETRAKIS(DIMETHYLAMINO)SILANE
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SECTION 15: Regulatory information

15.1. US Federal regulations

Tetrakis(dimethylamino)silane (1624-01-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Tetrakis(dimethylamino)silane (1624-01-7)
Listed on the Canadian NDSL (Non-Domestic Substances List)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.3. US State regulations

<table>
<thead>
<tr>
<th>TETRAKIS(DIMETHYLAMINO)SILANE (1624-01-7)</th>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Non-significant risk level (NSRL)</td>
</tr>
</tbody>
</table>

SECTION 16: Other information

Abbreviations and acronyms:
- ND: Not Determined
- 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

Full text of H-phrases:

Eye Dam. 1: Serious eye damage/eye irritation Category 1
Flam. Liq. 3: Flammable liquids Category 3
Skin Irrit. 2: Skin corrosion/irritation Category 2
STOT SE 3: Specific target organ toxicity (single exposure) Category 3
H226: Flammable liquid and vapor
H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation

HMIS III Rating
- Health: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures
- Flammability: 3 Serious Hazard
- Physical: 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 11/02/2015
Version: 1.0

SDS US (GHS HazCom 2012) - Custom
TETRAKIS(DIMETHYLAMINO)SILANE
Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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