**SECTION 1: Identification**

1.1. Identification

- **Product name**: N,N'-BIS(3-TRIMETHOXYSILYLPROPYL)UREA, 95%
- **Product code**: SIB1835.5
- **Product form**: Substance
- **Physical state**: Liquid
- **Formula**: C13H32N2O7Si2
- **Synonyms**: BIS[(3-TRIMETHOXYSILYL)PROPYLAMIDO]CARBONYL
- **Chemical family**: ORGANOMETHOXYSILANE

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 - 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 2 (H315 - Causes skin irritation)
  - Serious eye damage/eye irritation: Category 1 (H318 - Causes serious eye damage)
  - Specific target organ toxicity — Single exposure: Category 3 (H335 - May cause respiratory irritation)

- **Full text of H- and EUH-statement**: see section 16

2.2. GHS Label elements, including precautionary statements

- **GHS US labeling**
  - **Signal word (GHS US)**: Danger
  - **Hazard pictograms (GHS US)**: ![Hazard Pictogram](image)
  - **Hazard statements (GHS US)**:  
    - H315 - Causes skin irritation
    - H318 - Causes serious eye damage
    - H335 - May cause respiratory irritation
  - **Precautionary statements (GHS US)**:  
    - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
    - P310 - Immediately call a doctor.
    - P261 - Avoid breathing vapors.
    - P264 - Wash hands thoroughly after handling.
    - P271 - Use only outdoors or in a well-ventilated area.
    - P302+P352 - If on skin: Wash with plenty of water.
    - P332+P313 - If skin irritation occurs: Get medical advice/advice.
    - 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
    - P312 - Call a doctor if you feel unwell.
    - P321 - Specific treatment (see first aid instructions on this label).
    - P362+P364 - Take off contaminated clothing and wash it before reuse.
    - P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
    - P405 - Store locked up.
    - P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

- **Other hazards which do not result in classification**:
  - Additional methanol may be formed by reaction with moisture and water. The US OSHA PEL (TWA) for methanol is 200 ppm.
N,N'-BIS(3-TRIMETHOXYSILYLPROPYL)UREA, 95%
Safety Data Sheet

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : N,N'-BIS(3-TRIMETHOXYSILYLPROPYL)UREA, 95%
CAS-No. : 18418-53-6

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
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<tbody>
<tr>
<td>N,N-Bis(3-trimethoxysilyl)propyl)urea</td>
<td>(CAS-No.) 18418-53-6</td>
<td>90 – 100</td>
<td>Skin Irrit. 2, H315</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
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<tr>
<td>[3-(Trimethoxysilyl)propyl]urea</td>
<td>(CAS-No.) 23843-64-3</td>
<td>0 – 10</td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Full text of hazard classes, H- and EUH-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 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 if you feel unwell.

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 after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours.

Chronic symptoms : On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

4.3. Immediate medical attention and special treatment, if necessary

NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form methanol. The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media : Do not use straight streams.

5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures 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 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

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.
N,N'-BIS(3-TRIMETHOXYSILYLPROPYL)UREA, 95%
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Emergency procedures

6.1.2. For emergency responders
Protective equipment
Evacuate unnecessary personnel.

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.

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. Use only outdoors or in a well-ventilated area.

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

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 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
Liquid. Viscous.

Molecular mass
384.58 g/mol

Color
Straw to amber.

Odor
Amine. Ammonia-like.

Odor threshold
No data available

Refractive index
1.4488
N,N'-BIS(3-TRIMETHOXYSILYLPROPYL)UREA, 95%
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**pH**  : No data available
**Relative evaporation rate (butyl acetate=1)**  : No data available
**Melting point**  : No data available
**Freezing point**  : < 0 °C
**Boiling point**  : > 200 °C
**Flash point**  : > 110 °C
**Auto-ignition temperature**  : No data available
**Decomposition temperature**  : No data available
**Flammability (solid, gas)**  : No data available
**Vapor pressure**  : < 1 mm Hg @ 20°C
**Relative vapor density at 20 °C**  : > 1
**Relative density**  : 1.1
**% Volatiles**  : < 25%
**Solubility**  : Reacts with water.
**Partition coefficient n-octanol/water (Log Pow)**  : No data available
**Partition coefficient n-octanol/water (Log Kow)**  : No data available
**Viscosity, kinematic**  : 100 – 250 cSt
**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**
Reacts with water and moisture in air, liberating methanol.

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

**10.5.  Incompatible materials**

**10.6.  Hazardous decomposition products**
Organic acid vapors. Methanol.

**SECTION 11: Toxicological information**

**11.1.  Information on toxicological effects**

| Acute toxicity (oral) | Not classified |
| Acute toxicity (dermal) | Not classified |
| Acute toxicity (inhalation) | Not classified |

<table>
<thead>
<tr>
<th>[3-(Trimethoxysilyl)propyl]urea (23843-64-3)</th>
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<tbody>
<tr>
<td><strong>LD50 oral rat</strong></td>
</tr>
<tr>
<td><strong>LD50 dermal rat</strong></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
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<tr>
<td>Carcinogenicity</td>
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</tbody>
</table>

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  : May cause respiratory irritation.
N,N'-BIS(3-TRIMETHOXYISILYLPROPYL)UREA, 95%

STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Potential Adverse human health effects and symptoms:
- Symptoms/effects after inhalation: May cause respiratory irritation.
- Symptoms/effects after skin contact: Causes skin irritation.
- Symptoms/effects after eye contact: Causes serious eye damage.
- Symptoms/effects after ingestion: Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours.
- Chronic symptoms: On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

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 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
Not regulated for transport.

14.2. UN proper shipping name
Not applicable

14.3. Additional information
Other information: No supplementary information available.

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

N,N-Bis(3-trimethoxysilylpropyl)urea (18418-53-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

[3-(Trimethoxysilyl)propyl]urea (23843-64-3)
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15.2. International regulations

CANADA
No additional information available

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EU-Regulations
No additional information available

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<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
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National regulations

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</tr>
</thead>
<tbody>
<tr>
<td>Listed on the AICS (Australian Inventory of Chemical Substances)</td>
</tr>
<tr>
<td>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)</td>
</tr>
<tr>
<td>Listed on KECL/KECI (Korean Existing Chemicals Inventory)</td>
</tr>
<tr>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
</tr>
<tr>
<td>Listed on the TCSI (Taiwan Chemical Substance Inventory)</td>
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<td>Listed on KECL/KECI (Korean Existing Chemicals Inventory)</td>
</tr>
<tr>
<td>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)</td>
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</tbody>
</table>

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:

| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H335 | May cause respiratory irritation |

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.

Issue date: 01/08/2015 Revision date: 05/13/2021 Version: 3.2

SDS US (GHS HazCom 2012) - Custom

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

Print date: 05/13/2021 EN (English US) SDS ID: SIB1835.5
N,N'-BIS(3-TRIMETHOXYSILYLPROPYL)UREA, 95%
Safety Data Sheet

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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