SECTION 1: Identification

1.1. Identification

Product name: N,N'-BIS-[3-TRIETHOXYSILYLPROPYL]AMINOCARBONYL]POLYETHYLENE OXIDE (10-15 EO)

Product code: SIB1824.82

Product form: Substance

Physical state: Liquid

Synonyms: UREASIL; POLY(OXY-1,2-ETHANEDIYL), a-[[3-(TRIETHOXYSILYL)PROPYL]-w-[[3-(TRIETHOXYSILYL)PROPYL]AMINOCARBONYL]-

Chemical family: POLYALKYLENE OXIDE

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

Serious eye damage/eye irritation Category 2A H319 Causes serious eye irritation

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US): !

Signal word (GHS US): Warning

Hazard statements (GHS US): H319 - Causes serious eye irritation


2.3. Hazards not otherwise classified (HNOC)

Other hazards which do not result in classification: The hydrolysis product of this compound is ethanol. Overexposure to ethanol by skin absorption, inhalation or ingestion may have a narcotic effect (headache, nausea, drowsiness). Ethanol is metabolized to acetaldehyde and acetic acid which in large quantities result in metabolic acidosis, CNS depression and death due to respiratory arrest. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

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-TRIETHOXYSILYLPROPYL]AMINOCARBONYL]POLYETHYLENE OXIDE (10-15 EO)
N,N'-BIS-[(3-TRIETHOXYSILYLPROPYL)AMINOCARBONYL]POLYETHYLENE OXIDE (10-15 EO)
Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Bis[(3-triethoxysilylpropyl)aminocarbonyl]polyethylene oxide</td>
<td>(CAS-No.) 178884-91-8</td>
<td>&gt; 95</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>N-(Triethoxysilylpropyl)-o-polyethylene oxide urethane</td>
<td>(CAS-No.) 74695-91-3</td>
<td>&lt; 5</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

Full text of hazard classes and 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.

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.

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 (acute and delayed)

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

Symptoms/effects after skin contact: May cause skin irritation.

Symptoms/effects after eye contact: Causes serious eye irritation.

Symptoms/effects after ingestion: May be harmful if swallowed.

Chronic symptoms: On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.

4.3. Immediate medical attention and special treatment, if necessary
No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


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: 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 vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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.

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 in well ventilated areas.

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.


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. 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 to straw liquid.
- Molecular mass: 1000 – 1200 g/mol
- Color: No data available
- Odor: Mild.
- Odor threshold: No data available
- Refractive index: 1.4583
- pH: No data available
- Relative evaporation rate (butyl acetate=1): No data available
- Melting point: No data available
- Freezing point: No data available
- Boiling point: > 180 °C decomposes
- 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: No data available
- Relative density: 1.088
- % Volatiles: < 1 %
N,N'-BIS-[3-TRIETHOXYSILYLPROPYL)AMINOCARBONYL]POLYETHYLENE OXIDE (10-15 EO)
Safety Data Sheet

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: 300 – 350 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 ethanol.

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

10.5. Incompatible materials
Moisture. Water.

10.6. Hazardous decomposition products
Ethanol. Organic acid vapors.

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
Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
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. Overexposure may cause: Coughing. Headache. Nausea.
Symptoms/effects after skin contact: May cause skin irritation.
Symptoms/effects after eye contact: Causes serious eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.
Chronic symptoms: On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.
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

**Effect on the ozone layer**: No additional information available

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#### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

**Product/Packaging disposal recommendations**: May be incinerated. Dispose in a safe manner in accordance with local/national regulations.

**Ecology - waste materials**: Avoid release to the environment.

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#### 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

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#### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

**N,N'-BIS-[3-TRIETHOXYSILYLPROPYL)AMINOCARBONYL]POLYETHYLENE OXIDE (10-15 EO) (178884-91-8)**

**TSCA Exemption/Exclusion**: CAUTION: This material is supplied for research and development purposes subject to the RD 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.

**Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):**

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS-No.</th>
<th>Listing</th>
<th>Commercial status</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Bis-[3-triethoxysilylpropyl]aminocarbonyl</td>
<td>178884-91-8</td>
<td>Not present</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>polyethylene oxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-(Triethoxysilylpropyl)-o-polyethylene oxide urethane</td>
<td>74695-91-3</td>
<td>Not present</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

#### 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**
N,N'-BIS-[(3-TRIETHOXYSILYLPROPYL)AMINOCARBONYL]POLYETHYLENE
OXIDE (10-15 EO)
Safety Data Sheet

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:

| H319 | Causes serious eye 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: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
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: 05/17/2022   Version: 1.3

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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