SECTION 1: Identification

1.1. Identification
- **Product name**: BIS(3-TRIMETHOXYSILYLPROPYL)AMINE, 96%
- **Product code**: SIB1833.0
- **Product form**: Substance
- **Physical state**: Liquid
- **Formula**: C12H31NO6Si2
- **Synonyms**: AMINOBIS(PROPYLTRIMETHOXYSILANE)1-PROPANAMINE, 3-(TRIMETHOXYSILYL)-N-[3-(TRIMETHOXYSILYL)PROPYL]-
- **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 statements: see section 16

2.2. GHS Label elements, including precautionary statements
- **GHS US labeling**
  - **Hazard pictograms (GHS US)**: 
  - **Signal word (GHS US)**: Danger
  - **Hazard statements (GHS US)**: H315 - Causes skin 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
  - 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)
  - P332+P331 - If skin irritation occurs: Get medical advice/attention.
  - 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)
- No additional information available
2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : BIS(3-TRIMETHOXYSILYLPROPYL)AMINE, 96%
CAS-No. : 82985-35-1

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(trimethoxysilyl)amine</td>
<td>(CAS-No.) 82985-35-1</td>
<td>&gt; 96</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>
<tr>
<td>3-Aminopropyltrimethoxysilane</td>
<td>(CAS-No.) 13822-56-5</td>
<td>&lt; 4</td>
<td>Flam. Liq. 4, H227</td>
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<td></td>
<td></td>
<td></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>
</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. 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 (acute and delayed)


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 affect 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 ethanol (10 ml/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with 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.
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.

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.
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.
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:
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: 341.56 g/mol
BIS(3-TRIMETHOXYSYLPROPYL)AMINE, 96%
Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Straw</td>
</tr>
<tr>
<td>Odor</td>
<td>Amine. Ammonia-like</td>
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<tr>
<td>Odor threshold</td>
<td>No data available</td>
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<tr>
<td>Refractive index</td>
<td>1.432</td>
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<tr>
<td>pH</td>
<td>No data available</td>
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<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
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<tr>
<td>Boiling point</td>
<td>152 °C @ 4 mm Hg</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Auto-ignition temperature</td>
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</tr>
<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Flammability (solid, gas)</td>
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</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 0.1 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
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<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Solubility</td>
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<tr>
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<td>Log Kow</td>
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<tr>
<td>Viscosity, kinematic</td>
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<tr>
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<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
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<tr>
<td>Explosion limits</td>
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</table>

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 when stored 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
Methanol. Organic amine vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
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</tr>
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</table>

**Bis(trimethoxysilylpropyl)amine (82985-35-1)**

<table>
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<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>3600 µl/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>11300 µl/kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Aminopropyltrimethoxysilane (13822-56-5)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Causes skin irritation.
Skin Irritation - rabbit: 500 µL: moderate irritation effect

Serious eye damage/irritation
Causes serious eye damage.
Eye Irritation - rabbit: 5µL: severe irritation effect

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**

### Specific target organ toxicity – single exposure
- **May cause respiratory irritation.**

### Specific target organ toxicity – repeated exposure
- **Not classified**

### Aspiration hazard
- **Not classified**

### Symptoms/effects after inhalation
- **May cause respiratory irritation.** Overexposure may cause: Coughing, Headache, Nausea.

### 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.**

## 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
- **This substance may be hazardous to the environment.**
- **No additional information available**

## SECTION 13: Disposal considerations

### 13.1. Disposal methods
- **Do not dispose of waste into sewer.**
- **Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.**
- **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
- **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
BIS(3-TRIMETHOXYSILYLPROPYL)AMINE, 96%
Safety Data Sheet

### Bis(trimethoxysilylpropyl)amine (82985-35-1)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 3-Aminopropyltrimethoxysilane (13822-56-5)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA
- **Bis(trimethoxysilylpropyl)amine (82985-35-1)**
  - Listed on the Canadian NDSL (Non-Domestic Substances List)
- **3-Aminopropyltrimethoxysilane (13822-56-5)**
  - Listed on the Canadian DSL (Domestic Substances List)

#### WHMIS Classification
- Class B Division 3 - Combustible Liquid

### EU-Regulations
- **Bis(trimethoxysilylpropyl)amine (82985-35-1)**
  - Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
  - Listed on ELINCS (European List of Notified Chemical Substances)
- **3-Aminopropyltrimethoxysilane (13822-56-5)**
  - Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### National regulations
- **Bis(trimethoxysilylpropyl)amine (82985-35-1)**
  - Listed on the AICS (Australian Inventory of Chemical Substances)
  - Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
  - Listed on the Japanese ISHL (Industrial Safety and Health Law)
  - Listed on NZIoC (New Zealand Inventory of Chemicals)
  - Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- **3-Aminopropyltrimethoxysilane (13822-56-5)**
  - Listed on the AICS (Australian Inventory of Chemical Substances)
  - Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
  - Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
  - Listed on the Korean ECL (Existing Chemicals List)
  - Listed on NZIoC (New Zealand Inventory of Chemicals)
  - Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 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:**

<table>
<thead>
<tr>
<th>H-phrases</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H227</td>
<td>Combustible liquid</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

**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:** 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)
BIS(3-TRIMETHOXYSILYLPROPYL)AMINE, 96%
Safety Data Sheet

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: 01/06/2015        Revision date: 05/03/2019        Version: 2.0

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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