SECTION 1: Identification

1.1. Identification

Product name: 3-AMINOPROPYLTRIETHOXYSILANE 99+%  
Product code: SIA0610.1  
Product form: Substance  
Physical state: Liquid  
Formula: C9H23NO3Si  
Synonyms: GAP; AMEO; A-1100; 3-(TRIETHOXYSILYL)PROPYLAMINE  
Chemical family: ORGANOETHOXYSILANE

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

Acute toxicity (oral) Category 4  
Skin corrosion/irritation Category 1B  
Serious eye damage/eye irritation Category 1  
Specific target organ toxicity (single exposure) Category 3  
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): H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H335 - May cause respiratory irritation

Precautionary statements (GHS US): P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P260 - Do not breathe vapors.  
P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P301+P312 - If swallowed: Call a doctor if you feel unwell  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P303+P361+P335 - If on skin (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower  
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  
P310 - Immediately call a doctor  
P330 - Rinse mouth.  
P363 - Wash contaminated clothing 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.
3-AMINOPROPYLTRIETHOXYSILANE 99+%  
Safety Data Sheet

2.3. Hazards not otherwise classified (HNOC)

Other hazards not contributing to the 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

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
</table>
| 3-Aminopropyltriethoxysilane| (CAS-No.) 919-30-2 | > 99 | Acute Tox. 4 (Oral), H302  
|                             |                    |   | Skin Corr. 1B, H314  
|                             |                    |   | Eye Dam. 1, H318  
|                             |                    |   | STOT SE 3, H335  |
| Ethanol                     | (CAS-No.) 64-17-5  |   | Flam. Liq. 2, H225  
|                             |                    |   | Eye Irrit. 2A, H319  |

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 immediate medical advice/attention.

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. 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 (acute and delayed)

Symptoms/effects: Causes severe skin burns and eye damage.


Symptoms/effects after skin contact: Causes burns. Primary irritation index: 6.50.

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

Symptoms/effects after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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. Provide good ventilation in process area to prevent accumulation of vapors.

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

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
<th>ACGIH</th>
<th>ACGIH STEL (ppm)</th>
<th>1000 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>IDLH</td>
<td>US IDLH (ppm)</td>
<td>3300 ppm (10% LEL)</td>
<td></td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (TWA) (ppm)</td>
<td>1000 ppm</td>
<td></td>
</tr>
</tbody>
</table>

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:
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>221.37 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Straw</td>
</tr>
<tr>
<td>Odor</td>
<td>Amine. Ammonia-like.</td>
</tr>
</tbody>
</table>
# 3-AMINOPROPYLTRIETHOXYSILANE 99+% Safety Data Sheet

Odor threshold : No data available  
Refractive index : 1.4225  
\(pH\) : No data available  
Relative evaporation rate (butyl acetate=1) : < 1  
Melting point : No data available  
Freezing point : < 0 °C  
Boiling point : 122 - 123 °C @ 30 mm Hg  
Flash point : 104 °C  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability (solid, gas) : No data available  
Vapor pressure : 10 mm Hg @ 100 °C  
Relative vapor density at 20 °C : > 1  
Relative density : 0.951  
% Volatiles : < 40 %  
Solubility : Reacts with water.  
Log Pow : No data available  
Log Kow : No data available  
Viscosity, kinematic : 1.6 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 when stored in sealed containers.  

### 10.3. Possibility of hazardous reactions  
Reacts with water and moisture in air, liberating ethanol.  

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

### 10.5. Incompatible materials  

### 10.6. Hazardous decomposition products  
Ethanol. Organic acid vapors.  

## SECTION 11: Toxicological information  

### 11.1. Information on toxicological effects  
Acute toxicity : Not classified  

<table>
<thead>
<tr>
<th>Product</th>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-AMINOPROPYLTRIETHOXYSILANE 99+% (919-30-2)</td>
<td>LD50 oral rat</td>
<td>1780 mg/kg</td>
</tr>
<tr>
<td></td>
<td>ATE US (oral)</td>
<td>1873.684 mg/kg body weight</td>
</tr>
<tr>
<td>3-Aminopropytriethoxysilane (919-30-2)</td>
<td>LD50 oral rat</td>
<td>1780 mg/kg</td>
</tr>
<tr>
<td></td>
<td>ATE US (oral)</td>
<td>1780 mg/kg body weight</td>
</tr>
<tr>
<td>Ethanol (64-17-5)</td>
<td>LD50 oral rat</td>
<td>7060 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (mg/l)</td>
<td>124.7 mg/l/4h</td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (ppm)</td>
<td>20000 ppm 10 hrs.</td>
</tr>
<tr>
<td></td>
<td>LDLo oral rat</td>
<td>1400 mg/kg (Human)</td>
</tr>
<tr>
<td></td>
<td>ATE US (oral)</td>
<td>7060 mg/kg body weight</td>
</tr>
<tr>
<td></td>
<td>ATE US (vapors)</td>
<td>124.7 mg/l/4h</td>
</tr>
<tr>
<td></td>
<td>ATE US (dust, mist)</td>
<td>124.7 mg/l/4h</td>
</tr>
</tbody>
</table>

Print date: 04/11/2019  
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4/8
3-AMINOPROPYLTRIETHOXY SILANE 99+%  
Safety Data Sheet 

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified

Ethanol (64-17-5)

IARC group: 1 - Carcinogenic to humans
In OSHA Hazard Communication Carcinogen list: Yes
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 skin contact: Causes burns. Primary irritation index: 6.50.
Symptoms/effects after eye contact: Causes serious eye damage.
Symptoms/effects after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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

Ethanol (64-17-5)

LC50 fish 1: > 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 fish 2: > 13400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

Ethanol (64-17-5)

Log Pow: -0.32

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

Product/Packaging disposal recommendations: May be incinerated. Dispose of contents/container to licensed waste disposal facility. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT): 3267
DOT NA no.: UN3267

14.2. UN proper shipping name

Transport document description: UN3267 Corrosive liquid, basic, organic, n.o.s. (3-AMINOPROPYLTRIETHOXY SILANE), 8, III
Proper Shipping Name (DOT): Corrosive liquid, basic, organic, n.o.s. (3-AMINOPROPYLTRIETHOXY SILANE)
Class (DOT): 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT): III - Minor Danger
3-AMINOPROPYLTRIETHOXYSILANE 99+%  
Safety Data Sheet

Hazard labels (DOT) : 8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Symbols : G - Identifies PSN requiring a technical name

14.3. Additional information
Emergency Response Guide (ERG) Number : 153
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.
DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”, 52 - Stow “separated from” acids

Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

SECTION 15: Regulatory information

15.1. US Federal regulations
3-Aminopropyltriethoxysilane (919-30-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Ethanol (64-17-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
3-Aminopropyltriethoxysilane (919-30-2)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification : Class E - Corrosive Material
Ethanol (64-17-5)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification : Class B Division 2 - Flammable Liquid  
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations
3-Aminopropyltriethoxysilane (919-30-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Ethanol (64-17-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations
3-Aminopropyltriethoxysilane (919-30-2)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECS (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)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
15.3. US State regulations

**WARNING:** This product can expose you to Ethanol, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

### Ethanol (64-17-5)

<table>
<thead>
<tr>
<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>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ethanol (64-17-5)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Full text of H-phrases:

- **H225** Highly flammable liquid and vapor
- **H302** Harmful if swallowed
- **H314** Causes severe skin burns and eye damage
- **H318** Causes serious eye damage
- **H319** Causes serious eye irritation
- **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**

- 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.

Date of issue: 01/07/2015 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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