

3-AMINOPROPYLTRIMETHOXYSILANE, 99%

Safety Data Sheet SIA0611.1

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Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

| | |
|-----------------|---|
| Product form | : Substance |
| Physical state | : Liquid |
| Substance name | : 3-AMINOPROPYLTRIMETHOXYSILANE, 99% |
| Product code | : SIA0611.1 |
| Formula | : C6H17NO3Si |
| Synonyms | : 3-(TRIMETHOXYSILYL)PROPYLAMINE 3-(TRIMETHOXYSILYL)-1-PROPANAMINE |
| Chemical family | : ORGANOMETHOXYSILANE |

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet**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

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info@gelestde.com - www.gelestde.com**1.4. Emergency telephone number**

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

| | |
|---|------|
| Skin corrosion/irritation, Category 2 | H315 |
| Serious eye damage/eye irritation, Category 1 | H318 |
| Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation | H335 |

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS05

GHS07

Signal word (CLP) : Danger

Hazard statements (CLP) : H315 - Causes skin irritation.

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| | |
|--------------------------------|---|
| Precautionary statements (CLP) | H318 - Causes serious eye damage. H335 - May cause respiratory irritation. : P280 - Wear protective gloves/protective clothing/eye protection/face protection. P261 - Avoid breathing vapours. P264 - Wash hands thoroughly after handling. P302+P352 - IF ON SKIN: Wash with plenty of water. 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 POISON CENTER or doctor/physician |
|--------------------------------|---|

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|----------------|--------------------------------------|
| Substance type | : Mono-constituent |
| Name | : 3-AMINOPROPYLTRIMETHOXYSILANE, 99% |
| CAS-No. | : 13822-56-5 |
| EC-No. | : 237-511-5 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-------------------------------|--|------|---|
| 3-Aminopropyltrimethoxysilane | (CAS-No.) 13822-56-5 (EC-No.) 237-511-5 | > 99 | Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 |

Full text of 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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice. |
| First-aid measures after skin contact | : Wash with plenty of 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/effects after inhalation | : May cause irritation or asthma-like symptoms. Overexposure may cause: Cough. Headache. Nausea. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye damage. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |
| 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. Indication of any immediate medical attention and special treatment needed

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: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray. Foam. Carbon dioxide. Dry chemical. |
| Unsuitable extinguishing media | : Do not use straight streams. |

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5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures 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 vapour and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. 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.

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 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent formation of vapour. 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

Storage conditions : Keep container tightly closed. Keep in a cool place.
Incompatible materials : Acids. alcohols. Moisture. Oxidizing agent. Peroxides. Water.
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:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Wear protective gloves. Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles. Contact lenses should not be worn

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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 | : 179.29 g/mol |
| Colour | : Straw. |
| Odour | : Amine. Ammonia-like. |
| Odour threshold | : No data available |
| Refractive index | : 1.424 |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : < -40 °C |
| Boiling point | : 80 °C @ 8 mm Hg |
| Flash point | : 83 °C |
| Auto-ignition temperature | : 300 °C |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Combustible liquid |
| Vapour pressure | : 5 mm Hg @ 67°C |
| Relative vapour density at 20 °C | : < 1 |
| Relative density | : 1.027 |
| % Volatiles | : < 30 % |
| 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 |
| Oxidising properties | : No data available |
| Explosive 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 methanol.

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials

Acids. alcohols. Moisture. Oxidizing agent. Peroxides. Water.

10.6. Hazardous decomposition products

Methanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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3-Aminopropyltrimethoxysilane (13822-56-5)

LD50 oral rat > 2000 mg/kg

| | |
|-------------------------------------|---|
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye damage. |
| Respiratory or skin sensitisation | : 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 |
| STOT-single exposure | : May cause respiratory irritation. |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Symptoms/effects after inhalation | : May cause irritation or asthma-like symptoms. Overexposure may cause: Cough. Headache. Nausea. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye damage. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |
| 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

| | |
|--------------------------|------------------|
| Acute aquatic toxicity | : Not classified |
| Chronic aquatic toxicity | : Not classified |

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. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|--|
| Sewage disposal recommendations | : Do not dispose of waste into sewer. |
| Product/Packaging disposal recommendations | : May be incinerated. 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

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

| | |
|---------------|--------|
| UN-No. (ADR) | : 1760 |
| UN-No. (IMDG) | : 1760 |
| UN-No. (IATA) | : 1760 |
| UN-No. (ADN) | : 1760 |
| UN-No. (RID) | : 1760 |

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14.2. UN proper shipping name

| | |
|---------------------------------------|---|
| Proper Shipping Name (ADR) | : CORROSIVE LIQUID, N.O.S. |
| Proper Shipping Name (IMDG) | : CORROSIVE LIQUID, N.O.S. |
| Proper Shipping Name (IATA) | : Corrosive liquid, n.o.s. |
| Proper Shipping Name (ADN) | : CORROSIVE LIQUID, N.O.S. |
| Proper Shipping Name (RID) | : CORROSIVE LIQUID, N.O.S. |
| Transport document description (ADR) | : UN 1760 CORROSIVE LIQUID, N.O.S. (3-AMINOPROPYLTRIMETHOXYSILANE), 8, III, (E) |
| Transport document description (IMDG) | : UN 1760 CORROSIVE LIQUID, N.O.S. (3-AMINOPROPYLTRIMETHOXYSILANE), 8, III |
| Transport document description (IATA) | : UN 1760 Corrosive liquid, n.o.s. (3-AMINOPROPYLTRIMETHOXYSILANE), 8, III |
| Transport document description (ADN) | : UN 1760 CORROSIVE LIQUID, N.O.S. (3-AMINOPROPYLTRIMETHOXYSILANE), 8, III |
| Transport document description (RID) | : UN 1760 CORROSIVE LIQUID, N.O.S. (3-AMINOPROPYLTRIMETHOXYSILANE), 8, III |

14.3. Transport hazard class(es)

ADR

| | |
|----------------------------------|-----|
| Transport hazard class(es) (ADR) | : 8 |
| Danger labels (ADR) | : 8 |



IMDG

| | |
|-----------------------------------|-----|
| Transport hazard class(es) (IMDG) | : 8 |
| Danger labels (IMDG) | : 8 |



IATA

| | |
|-----------------------------------|-----|
| Transport hazard class(es) (IATA) | : 8 |
| Hazard labels (IATA) | : 8 |



ADN

| | |
|----------------------------------|-----|
| Transport hazard class(es) (ADN) | : 8 |
| Danger labels (ADN) | : 8 |



RID

| | |
|----------------------------------|-----|
| Transport hazard class(es) (RID) | : 8 |
| Danger labels (RID) | : 8 |

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14.4. Packing group

| | |
|----------------------|-------|
| Packing group (ADR) | : III |
| Packing group (IMDG) | : III |
| Packing group (IATA) | : III |
| Packing group (ADN) | : III |
| Packing group (RID) | : III |

14.5. Environmental hazards

| | |
|-------------------------------|--|
| Dangerous for the environment | : No |
| Marine pollutant | : No |
| Other information | : No supplementary information available |

14.6. Special precautions for user

- Overland transport

| | |
|---|---------------------------|
| Classification code (ADR) | : C9 |
| Special provisions (ADR) | : 274 |
| Limited quantities (ADR) | : 5I |
| Excepted quantities (ADR) | : E1 |
| Packing instructions (ADR) | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (ADR) | : MP19 |
| Portable tank and bulk container instructions (ADR) | : T7 |
| Portable tank and bulk container special provisions (ADR) | : TP1, TP28 |
| Tank code (ADR) | : L4BN |
| Vehicle for tank carriage | : AT |
| Transport category (ADR) | : 3 |
| Special provisions for carriage - Packages (ADR) | : V12 |
| Hazard identification number (Kemler No.) | : 80 |
| Orange plates | : |



| | |
|-------------------------------|------|
| Tunnel restriction code (ADR) | : E |
| EAC code | : 2X |
| APP code | : B |

- Transport by sea

| | |
|------------------------------------|--|
| Special provisions (IMDG) | : 223, 274 |
| Limited quantities (IMDG) | : 5 L |
| Excepted quantities (IMDG) | : E1 |
| Packing instructions (IMDG) | : P001, LP01 |
| IBC packing instructions (IMDG) | : IBC03 |
| Tank instructions (IMDG) | : T7 |
| Tank special provisions (IMDG) | : TP1, TP28 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-B |
| Stowage category (IMDG) | : A |
| Stowage and handling (IMDG) | : SW2 |
| Properties and observations (IMDG) | : Causes burns to skin, eyes and mucous membranes. |

- Air transport

| | |
|--------------------------------|--------|
| PCA Excepted quantities (IATA) | : E1 |
| PCA Limited quantities (IATA) | : Y841 |

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| | |
|--|-------|
| PCA limited quantity max net quantity (IATA) | : 1L |
| PCA packing instructions (IATA) | : 852 |
| PCA max net quantity (IATA) | : 5L |
| CAO packing instructions (IATA) | : 856 |
| CAO max net quantity (IATA) | : 60L |
| Special provisions (IATA) | : A3 |
| ERG code (IATA) | : 8L |

- Inland waterway transport

| | |
|-----------------------------------|----------|
| Classification code (ADN) | : C9 |
| Special provisions (ADN) | : 274 |
| Limited quantities (ADN) | : 5 L |
| Excepted quantities (ADN) | : E1 |
| Carriage permitted (ADN) | : T |
| Equipment required (ADN) | : PP, EP |
| Number of blue cones/lights (ADN) | : 0 |

- Rail transport

| | |
|---|---------------------------|
| Classification code (RID) | : C9 |
| Special provisions (RID) | : 274 |
| Limited quantities (RID) | : 5L |
| Excepted quantities (RID) | : E1 |
| Packing instructions (RID) | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (RID) | : MP19 |
| Portable tank and bulk container instructions (RID) | : T7 |
| Portable tank and bulk container special provisions (RID) | : TP1, TP28 |
| Tank codes for RID tanks (RID) | : L4BN |
| Transport category (RID) | : 3 |
| Special provisions for carriage – Packages (RID) | : W12 |
| Colis express (express parcels) (RID) | : CE8 |
| Hazard identification number (RID) | : 80 |

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

3-AMINOPROPYLTRIMETHOXYSILANE, 99% is not on the REACH Candidate List

3-AMINOPROPYLTRIMETHOXYSILANE, 99% is not on the REACH Annex XIV List

3-AMINOPROPYLTRIMETHOXYSILANE, 99% is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

3-AMINOPROPYLTRIMETHOXYSILANE, 99% is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : < 30 %

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to VwVwS, Annex 3; ID No. 7587)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

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| | |
|---|-------------------------------|
| SZW-lijst van mutagene stoffen | : The substance is not listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding | : The substance is not listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid | : The substance is not listed |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling | : The substance is not listed |

Denmark

| | |
|-----------------------------|--|
| Class for fire hazard | : Class III-1 |
| Store unit | : 50 liter |
| Classification remarks | : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed |
| Danish National Regulations | : Young people below the age of 18 years are not allowed to use the product |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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 |
|--|--|

Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

| | |
|---------------|--|
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H335 | May cause respiratory irritation. |

SDS EU (REACH Annex II) - Custom

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