



A Group Company of MITSUBISHI CHEMICAL

# N-(2-AMINOETHYL)-3-AMINOPROPYLTRIMETHOXYSILANE-PROPYLTRIMETHOXYSILANE, oligomeric co-hydrolysate

## Safety Data Sheet SIA0591.3

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Version: 1.1

### SECTION 1: Identification

#### 1.1. Identification

Product name : N-(2-AMINOETHYL)-3-AMINOPROPYLTRIMETHOXYSILANE-PROPYLTRIMETHOXYSILANE, oligomeric co-hydrolysate

Product code : SIA0591.3

Product form : Substance

Physical state : Liquid

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](mailto:info@gelest.com) - [www.gelest.com](http://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 2 H319 Causes serious eye irritation  
 Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation 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) : Warning

Hazard statements (GHS US) : H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H335 - May cause respiratory irritation

Precautionary statements (GHS US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P312 - Call a doctor if you feel unwell.  
 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 soap and water.  
 P332+P313 - If skin irritation occurs: Get medical advice/attention.  
 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  
 P337+P313 - If eye irritation persists: Get medical advice/attention.  
 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)

No additional information available

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### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Multi-constituent  
Name : N-(2-AMINOETHYL)-3-AMINOPROPYLTRIMETHOXYSILANE-  
PROPYLTRIMETHOXYSILANE, oligomeric co-hydrolysate  
CAS-No. : Not found

Name	Product identifier	%	GHS US classification
N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane-propyltrimethoxysilane, oligomeric co-hydrolysate	(CAS-No.) Not found	90 – 100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
n-Propyltrimethoxysilane	(CAS-No.) 1067-25-0	0 – 10	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Methanol	(CAS-No.) 67-56-1	0 – 1	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 1, H370 STOT SE 3, H336

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. If skin irritation or rash occurs: 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 inhalation : May cause respiratory irritation. 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. 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 mls/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

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

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.

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### 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. Avoid release to the environment.

### 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. Use only in well ventilated areas.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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 : Acids. Alcohols. Moisture. Oxidizing agent. Peroxides. Water.
- Storage area : Store in a well-ventilated place. Store away from heat.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Methanol (67-56-1)		
ACGIH	ACGIH OEL TWA [ppm]	200 ppm
ACGIH	ACGIH OEL STEL [ppm]	250 ppm
OSHA	OSHA PEL (TWA) [1]	260 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) [2]	200 ppm
IDLH	IDLH [ppm]	6000 ppm
NIOSH	NIOSH REL (TWA)	260 mg/m <sup>3</sup>
NIOSH	NIOSH REL TWA [ppm]	200 ppm
NIOSH	NIOSH REL (STEL)	325 mg/m <sup>3</sup>
NIOSH	NIOSH REL STEL [ppm]	250 ppm

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Provide local exhaust or general room ventilation.

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### 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.
Color	: Straw.
Odor	: Mild.
Odor threshold	: No data available
Refractive index	: 1.442
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: No data available
Flash point	: > 110 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.09
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	: No data available
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.

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### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 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 (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

n-Propyltrimethoxysilane (1067-25-0)	
LD50 oral rat	7420 mg/kg 5170 mg/kg
LC50 Inhalation - Rat	> 22 mg/l
ATE US (oral)	7420 mg/kg body weight

Methanol (67-56-1)	
LC50 Inhalation - Rat [ppm]	22500 ppm (Exposure time: 8 h)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (vapors)	3 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.  
Serious eye damage/irritation : Causes serious eye irritation.  
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  
STOT-single exposure : May cause respiratory irritation.  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Symptoms/effects after inhalation : May cause respiratory irritation. 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

Ecology - water : Harmful to aquatic life with long lasting effects.

Methanol (67-56-1)	
LC50 - Fish [1]	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

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### Methanol (67-56-1)

BCF - Fish [1]	< 10
Partition coefficient n-octanol/water (Log Pow)	-0.77

### 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.
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### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

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

Name	CAS-No.	Listing	Commercial status	Flags
N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane-propyltrimethoxysilane, oligomeric co-hydrolysate	Not found	Present	Active	
n-Propyltrimethoxysilane	1067-25-0	Present	Active	
Methanol	67-56-1	Present	Active	

### Methanol (67-56-1)

Subject to reporting requirements of United States SARA Section 313

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### 15.2. International regulations

#### CANADA

##### n-Propyltrimethoxysilane (1067-25-0)

Listed on the Canadian DSL (Domestic Substances List)

##### Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

##### N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane-propyltrimethoxysilane, oligomeric co-hydrolysate (Not found)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### n-Propyltrimethoxysilane (1067-25-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### Methanol (67-56-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### National regulations

##### N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane-propyltrimethoxysilane, oligomeric co-hydrolysate (Not found)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on KECL/KECI (Korean Existing Chemicals Inventory)

##### n-Propyltrimethoxysilane (1067-25-0)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

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 KECL/KECI (Korean Existing Chemicals Inventory)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

##### Methanol (67-56-1)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

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 KECL/KECI (Korean Existing Chemicals Inventory)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Japanese Poisonous and Deleterious Substances Control Law

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 Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### Methanol (67-56-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		

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### Methanol (67-56-1)

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

## SECTION 16: Other information

Full text of H-phrases::

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H370	Causes damage to organs

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.

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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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