

Safety Data Sheet SID3396.0
Date of issue: 01/05/2015 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Physical state : Liquid

Substance name : (N,N-DIETHYL-3-AMINOPROPYL)TRIMETHOXYSILANE

Product code : SID3396.0
Formula : C10H25NO3Si

Synonyms : N-(3-TRIMETHOXYSILY)PROPYL-N,N-DIETHYLAMINE; N,N-DIETHYL-3-

(TRIMETHOXYSILYL)PROPYLAMINE; N,N-DIETHYL-3-(TRIMETHOXYSILYL)-1-

PROPANAMINE

Chemical family : ORGANOMETHOXYSILANE

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

Use of the substance/mixture : Chemical intermediate

For research and industrial use only

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

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: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Skin Irrit. 2 H315 Eye Dam. 1 H318 STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)





GHS05

GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US)

: H315 - Causes skin irritation
H318 - Causes serious eye damage

H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection

P261 - Avoid breathing vapors

P264 - Wash hands thoroughly after handling

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing

P302+P352 - If on skin: Wash with plenty of 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

P271 - Use only outdoors or in a well-ventilated area

P362 - Take off contaminated clothing and wash 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.

P312 - Call a doctor if you feel unwell

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Other hazards

No additional information available

Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

Substance

Substance type : Mono-constituent

(N,N-DIETHYL-3-AMINOPROPYL)TRIMETHOXYSILANE Name

CAS No : 41051-80-3 EC no : 255-192-0

Name	Product identifier	%	Classification (GHS-US)
(N,N-Diethyl-3-aminopropyl)trimethoxysilane	(CAS No) 41051-80-3	> 95	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
Methanol	(CAS No) 67-56-1		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

Mixture

Not applicable

SECTION 4: First aid measures

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.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel First-aid measures after inhalation

unwell, seek medical advice.

First-aid measures after skin contact Wash with plenty of soap and water.

First-aid measures after eye contact Rinse cautiously with water for several 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 if you

feel unwell.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation. Overexposure may cause: Coughing. Headache. Nausea.

Symptoms/injuries after skin contact Causes skin irritation. Symptoms/injuries after eye contact Causes serious eye damage.

: Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes Symptoms/injuries after ingestion

nausea, vomiting, headache, visual effects including blindness. Onset of symptoms may be delayed up to 48 hours.

On contact with water this compound liberates methanol which is known to have a chronic Chronic symptoms

effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

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 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: Firefighting measures

Extinguishing media

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

Special hazards arising from the substance or mixture

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated

temperatures or open flame.

Advice for firefighters

Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

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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

Storage area

: Keep container tightly closed.

Incompatible materials

: Acids. Alcohols. Oxidizing agent. Peroxides. Moisture. Water.

: 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

Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	260 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	325 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA IDLH	US IDLH (ppm)	6000 ppm

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

: 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

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Appearance : Clear liquid.

Molecular mass : 235.4 g/mol
Color : Straw.

Odor : Amine. Ammonia-like.
Odor threshold : No data available

Refractive index : 1.4245

pH : No data available Relative evaporation rate (butyl acetate=1) : No data available Melting point : No data available

Freezing point : < 0 °C

Boiling point : $120 \, ^{\circ}\text{C} \, @ \, 20 \, \text{mm Hg}$

Flash point : 100 °C

Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : < 1 mm Hg @ 25°C

Relative vapor density at 20 °C : > 1
Relative density : 0.934

Solubility : Reacts with water. Log Pow : No data available No data available Log Kow Viscosity, kinematic No data available No data available Viscosity, dynamic No data available Explosive properties No data available Oxidizing properties **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 in sealed containers stored at temperatures not exceeding 40°C.

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. Oxidizing agent. Peroxides. Moisture. Water.

10.6. Hazardous decomposition products

Methanol. Organic amine vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Methanol (67-56-1)		
LD50 oral rat	6200 mg/kg	
LD50 dermal rabbit	20 g/kg	
LC50 inhalation rat (ppm)	22500 ppm (Exposure time: 8 h)	
ATE US (oral)	100.000 mg/kg body weight	
ATE US (dermal)	300.000 mg/kg body weight	
ATE US (vapors)	3.000 mg/l/4h	

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified

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Methanol (67-56-1)

Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
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/injuries after inhalation : May cause respiratory irritation. Overexposure may cause: Coughing, Headache, Nausea.

Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries 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

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

Methanol (67-56-1)	
BCF fish 1	< 10
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 ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste 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

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

SECTION 15: Regulatory information

15.1. US Federal regulations

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Methanol (67-56-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on United States SARA Section 313

SARA Section 313 - Emission Reporting

(N,N-Diethyl-3-aminopropyl)trimethoxysilane (41051-80-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Methanol (67-56-1)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian DSL (Domestic Sustances List)

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

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

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)

Japanese Poisonous and Deleterious Substances Control Law

Listed on the Canadian IDL (Ingredient Disclosure List)

(N,N-Diethyl-3-aminopropyl)trimethoxysilane (41051-80-3)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on the Canadian NDSL (Non-Domestic Substances List)

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

Listed on the Japanese ISHL (Industrial Safety and Health Law)

15.3. US State regulations

(N,N-DIETHYL-3-AMINOPROPYL)TRIMETHOXYSILANE(41051-80-3)		
U.S California - Proposition 65 - Carcinogens List	No	
U.S California - Proposition 65 - Developmental Toxicity	No	
U.S California - Proposition 65 - Reproductive Toxicity - Female	No	
U.S California - Proposition 65 - Reproductive Toxicity - Male	No	

Methanol	(67-56-1)
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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 significance risk level (NSRL)
No	Yes	No	No	

(N,N-Diethyl-3-aminopropyl)trimethoxysilane (41051-80-3)

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 significance risk level (NSRL)
No	No	No	No	

Methanol (67-56-1)

- U.S. California Proposition 65 Maximum Allowable Dose Levels (MADL)
- U.S. California SCAQMD Toxic Air Contaminants Non-Cancer Acute U.S. California SCAQMD Toxic Air Contaminants Non-Cancer Chronic
- U.S. California Toxic Air Contaminant List (AB 1807, AB 2728)
- U.S. Colorado Hazardous Wastes Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
- U.S. Connecticut Hazardous Air Pollutants HLVs (30 min)
- U.S. Connecticut Hazardous Air Pollutants HLVs (8 hr)
- U.S. Connecticut Volatile Substances
- U.S. Delaware Pollutant Discharge Requirements Reportable Quantities
- U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Acceptable Ambient Concentrations
- U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Emission Levels (ELs)
- U.S. Idaho Occupational Exposure Limits TWAs
- U.S. Illinois Toxic Air Contaminants
- U.S. Louisiana Reportable Quantity List for Pollutants
- U.S. Maine Air Pollutants Hazardous Air Pollutants
- U.S. Maine Chemicals of High Concern
- U.S. Massachusetts Allowable Ambient Limits (AALs)
- U.S. Massachusetts Allowable Threshold Concentrations (ATCs)
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 2
- U.S. Massachusetts Oil & Hazardous Material List Reportable Quantity

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Methanol (67-56-1) U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1 U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2 U.S. - Massachusetts - Right To Know List U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs) U.S. - Massachusetts - Toxics Use Reduction Act U.S. - Michigan - Occupational Exposure Limits - Skin Designations U.S. - Michigan - Occupational Exposure Limits - STELs U.S. - Michigan - Occupational Exposure Limits - TWAs U.S. - Michigan - Polluting Materials List U.S. - Minnesota - Chemicals of High Concern U.S. - Minnesota - Groundwater Health Risk Limits U.S. - Minnesota - Hazardous Substance List U.S. - Minnesota - Permissible Exposure Limits - Skin Designations U.S. - Minnesota - Permissible Exposure Limits - STELs U.S. - Minnesota - Permissible Exposure Limits - TWAs U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances U.S. - New Jersey - Environmental Hazardous Substances List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New Jersey - Special Health Hazards Substances List U.S. - New Jersey - Water Quality - Ground Water Quality Criteria U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs) U.S. - New York - Occupational Exposure Limits - Skin Designations U.S. - New York - Occupational Exposure Limits - TWAs U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues U.S. - Oregon - Permissible Exposure Limits - TWAs U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories U.S. - Tennessee - Occupational Exposure Limits - Skin Designations U.S. - Tennessee - Occupational Exposure Limits - STELs U.S. - Tennessee - Occupational Exposure Limits - TWAs U.S. - Texas - Effects Screening Levels - Long Term U.S. - Texas - Effects Screening Levels - Short Term U.S. - Vermont - Permissible Exposure Limits - Skin Designations

SECTION 16: Other information

U.S. - Vermont - Permissible Exposure Limits - STELs U.S. - Vermont - Permissible Exposure Limits - TWAs

U.S. - Washington - Permissible Exposure Limits - STELs U.S. - Washington - Permissible Exposure Limits - TWAs

U.S. - Washington - Dangerous Waste - Discarded Chemical Products List U.S. - Washington - Permissible Exposure Limits - Skin Designations

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.: Chemcial 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.

Full text of H-phrases::

ext of n-philases	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapor) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor

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H301	Toxic if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H331	Toxic if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H370	Causes damage to organs

HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard Physical : 1 Slight Hazard

Prepared by safety and environmental affairs.

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

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