



A Group Company of MITSUBISHI CHEMICAL

# N,N'-BIS[(3-TRIMETHOXYSYLYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet SIB1834.1

Issue date: 07/01/2015

Revision date: 21/06/2022

Version: 2.1

### 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'-BIS[(3-TRIMETHOXYSYLYL)PROPYL]ETHYLENEDIAMINE, 95%
Product code	: SIB1834.1
Formula	: C <sub>14</sub> H <sub>36</sub> N <sub>2</sub> O <sub>6</sub> Si <sub>2</sub>
Synonyms	: BIS(TRIMETHOXYSYLYLPROPYL)ETHYLENEDIAMINE; 1,2-BIS[(3-TRIMETHOXYSYLYL)PROPYLAMINO]ETHANE
Chemical family	: ORGANOMETHOXYLANE

#### 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

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

##### GELEST INC.

Fritz-Klatte-Strasse 8  
65933 Frankfurt

##### Germany

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

[info@gelestde.com](mailto:info@gelestde.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: 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
Skin sensitisation, Category 1	H317
Specific target organ toxicity – Single exposure, Category 3,	H335
Respiratory tract irritation	

Full text of H- and EUH-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

# N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet

Signal word (CLP)	: Danger
Hazard statements (CLP)	: H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection. P261 - Avoid breathing mist, vapours. P264 - Wash hands thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing should not be allowed out of the workplace. P310 - Immediately call a POISON CENTER or doctor.

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Multi-constituent
Name	: N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%
CAS-No.	: 68845-16-9
EC-No.	: 272-453-4

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N,N'-Bis[(3-trimethoxysilyl)propyl]ethylenediamine	(CAS-No.) 68845-16-9 (EC-No.) 272-453-4	> 95	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT SE 3, H335
N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane	(CAS-No.) 1760-24-3 (EC-No.) 217-164-6	< 5	Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT SE 3, H335 Aquatic Chronic 3, H412

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/.... If skin irritation or rash occurs: Get immediate 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, both acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation. Overexposure may cause: Nausea. Headache. Cough.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
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 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with

# N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet

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.

#### 5.2. 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.

#### 5.3. Advice for firefighters

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 vapour 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 Section 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 vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Use only in well ventilated areas.

Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.  
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:

Neoprene or nitrile rubber gloves

##### Eye protection:

Chemical goggles. Contact lenses should not be worn

##### Skin and body protection:

# N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet

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

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 384.62 g/mol
Colour	: Straw.
Odour	: Mild. Amine. Ammonia-like.
Odour threshold	: No data available
Refractive index	: 1.4428
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: > 150 °C @ 15 mm Hg
Flash point	: > 150 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: < 1 mm Hg @ 25° C
Relative vapour density at 20 °C	: > 1
Relative density	: 1.05
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
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 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

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.

#### N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane (1760-24-3)

LD50 oral rat	2413 mg/kg
---------------	------------

# N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet

### N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane (1760-24-3)

LD50 dermal rat	> 2009 mg/kg
LD50 dermal rabbit	16 ml/kg
LD50 intravenous mouse	180 mg/kg
LC50 Inhalation - Rat	1.49 – 2.44
ATE CLP (oral)	2413 mg/kg bodyweight
ATE CLP (vapours)	1.49 mg/l/4h
ATE CLP (dust,mist)	1.49 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
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: Nausea. Headache. Cough.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
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

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

### N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane (1760-24-3)

LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	90 mg/l
ErC50 algae	8.8 mg/l
NOEC chronic crustacea	< 63 mg/l
NOEC chronic algae	1.6 mg/l

### 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

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.

# N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet

### SECTION 14: Transport information

#### 14.1. UN number

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

#### 14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: Not applicable
----------------------------------	------------------

##### IMDG

Transport hazard class(es) (IMDG)	: Not applicable
-----------------------------------	------------------

##### IATA

Transport hazard class(es) (IATA)	: Not applicable
-----------------------------------	------------------

##### ADN

Transport hazard class(es) (ADN)	: Not applicable
----------------------------------	------------------

##### RID

Transport hazard class(es) (RID)	: Not applicable
----------------------------------	------------------

#### 14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

#### 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

Vehicle for tank carriage	: AT
Transport category (ADR)	: 3

##### - Transport by sea

No data available

##### - Air transport

No data available

##### - Inland waterway transport

No data available



# N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95%

## Safety Data Sheet

### - Rail transport

No data available

### 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

N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95% is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95% is not on the REACH Candidate List

N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95% is not on the REACH Annex XIV List

N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95% 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.

#### 15.1.2. National regulations

##### Germany

Regulatory reference : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95% is listed

SZW-lijst van mutagene stoffen : N,N'-BIS[(3-TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE, 95% is listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## 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:

Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.

## Safety Data Sheet

H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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.

© 2020 Gelest Inc. Morrisville, PA 19067