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

1.1. **Product identifier**

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-408-9</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7538-44-5</td>
</tr>
<tr>
<td>Product code</td>
<td>SIB1140.0</td>
</tr>
<tr>
<td>Formula</td>
<td>C13H31NO5Si</td>
</tr>
<tr>
<td>Synonyms</td>
<td>N-TRIETHOXYSILYLPROPYL-N,N-BIS(2-HYDROXYETHYL)AMINE; 2,2'-[3-(TRIETHOXYSILYL)PROPYLIMINO]BISETHANOL</td>
</tr>
<tr>
<td>Product group</td>
<td>Blend</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOETHOXYSILANE</td>
</tr>
</tbody>
</table>

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 - 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@geleste.de - 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]

- Flammable liquids, Category 3 : H226
- Skin corrosion/irritation, Category 2 : H315
- Serious eye damage/eye irritation, Category 2 : H319
- Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation : H335

Full text of H- and EUH-statements: see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP): GHS02, GHS07

Signal word (CLP): Warning

Contains: N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane

Hazard statements (CLP):
- H226 - Flammable liquid and vapour.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.

Precautionary statements (CLP):
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground and bond container and receiving equipment.
- P241 - Use explosion-proof electrical/ventilating/lighting equipment.
- P261 - Avoid breathing vapours.
- P264 - Wash hands thoroughly after handling.

2.3. Other hazards

Other hazards which do not result in classification:
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.

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component

<table>
<thead>
<tr>
<th>Component</th>
<th>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethoxyethanol (110-80-5)</td>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 %

Component

<table>
<thead>
<tr>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethoxyethanol (110-80-5)</td>
</tr>
</tbody>
</table>

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol

Safety Data Sheet
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane</td>
<td>CAS-No.: 7538-44-5 EC-No.: 231-408-9</td>
<td>&gt; 60</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335</td>
</tr>
<tr>
<td>Ethanol</td>
<td>CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5</td>
<td>&lt; 40</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td>2-Ethoxyethanol substance listed as REACH Candidate</td>
<td>CAS-No.: 110-80-5 EC-No.: 203-804-1 EC Index-No.: 603-012-00-X</td>
<td>&lt; 5</td>
<td>Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:vapour), H331 Repr. 1B, H360FD</td>
</tr>
</tbody>
</table>

Full text of H- and EUH-statements: see section 16

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 : 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.

4.2. Most important symptoms and effects, both acute and delayed


Symptoms/effects after skin contact : Causes skin irritation.

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

Symptoms/effects after ingestion : May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Explosion hazard : May form flammable/explosive vapour-air mixture.

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.
6.1. Personal precautions, protective equipment and emergency procedures

General measures: Eliminate every possible source of ignition. 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.
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. Use only non-sparking tools.

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
Additional hazards when processed: Handle empty containers with care because residual vapours are flammable. 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. Take precautionary measures against static discharge. 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
Technical measures: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof ventilating equipment.
Storage conditions: Keep container tightly closed. Keep in a cool place.
Incompatible materials: Acids, alcohols, Oxidizing agent, Peroxides.
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

8.1.1 National occupational exposure and biological limit values

2-Ethoxyethanol (110-80-5)
EU - Indicative Occupational Exposure Limit (IOEL)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOEL TWA</td>
<td>8 mg/m³</td>
</tr>
</tbody>
</table>
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2-Ethoxyethanol (110-80-5)

| IOEL TWA [ppm] | 2 ppm |

8.1.2. Recommended monitoring procedures
No additional information available

8.1.3. Air contaminants formed
No additional information available

8.1.4. DNEL and PNEC
No additional information available

8.1.5. Control banding
No additional information available

8.2. Exposure controls

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

8.2.2. Personal protection equipment
Personal protective equipment:
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary exposure.

8.2.2.1. Eye and face protection
Eye protection:
Chemical goggles. Contact lenses should not be worn

8.2.2.2. Skin protection
Skin protection:
Wear suitable protective clothing
Hand protection:
Neoprene or nitrile rubber gloves

8.2.2.3. Respiratory protection
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.

8.2.2.4. Thermal hazards
No additional information available

8.2.3. Environmental exposure controls
No additional information available

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>Colour</td>
<td>Straw.</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>309.48 g/mol</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild. Ethanol.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Flammable liquid and vapour.</td>
</tr>
</tbody>
</table>

23.10.2023 (Revision date) EU - en 5/12
Explosive limits: Not available
Lower explosion limit: Not available
Upper explosion limit: Not available
Flash point: 24 °C
Auto-ignition temperature: Not available
Decomposition temperature: Not available
pH: Not available
Viscosity, kinematic: Not available
Solubility: Reacts with water.
Partition coefficient n-octanol/water (Log Kow): Not available
Vapour pressure: Not available
Vapour pressure at 50°C: Not available
Density: Not available
Relative density: 0.92
Relative vapour density at 20°C: > 1
Particle characteristics: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes
No additional information available

9.2.2. Other safety characteristics

VOC content: > 40%
Refractive index: 1.409

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
Organic amine vapors.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified

2-Ethoxyethanol (110-80-5)

LD50 oral rat: 2800 mg/kg
LD50 dermal rabbit: 3300 mg/kg
**N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol**

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

---

### 2-Ethoxyethanol (110-80-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Inhalation - Rat [ppm]</td>
<td>4267 ppm/4h</td>
</tr>
</tbody>
</table>

### Ethanol (64-17-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>7060 mg/kg</td>
</tr>
<tr>
<td>LC50 Inhalation - Rat</td>
<td>124.7 mg/l/4h</td>
</tr>
<tr>
<td>LC50 Inhalation - Rat [ppm]</td>
<td>20000 ppm 10 hrs.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Additional information</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

### N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane (7538-44-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOT-single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**11.2. Information on other hazards**

No additional information available

### SECTION 12: Ecological information

#### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotoxicity - general</td>
<td>Toxic to aquatic life.</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment, short–term (acute)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment, long–term (chronic)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**2-Ethoxyethanol (110-80-5)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 - Fish [1]</td>
<td>&gt; 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
</tr>
<tr>
<td>LC50 - Fish [2]</td>
<td>&gt; 0.1 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])</td>
</tr>
<tr>
<td>EC50 - Crustacea [1]</td>
<td>&gt; 10000 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
<tr>
<td>EC50 72h - Algae [1]</td>
<td>&gt; 1000 mg/l (Species: Desmodesmus subspicatus)</td>
</tr>
</tbody>
</table>

**Ethanol (64-17-5)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 - Fish [1]</td>
<td>&gt; 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [rainbow trout])</td>
</tr>
<tr>
<td>LC50 - Fish [2]</td>
<td>&gt; 13400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [fathead minnow])</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

No additional information available

**12.3. Bioaccumulative potential**

**2-Ethoxyethanol (110-80-5)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>-0.1</td>
</tr>
</tbody>
</table>
Ethanol (64-17-5)
Partition coefficient n-octanol/water (Log Pow)  -0.32

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
Component
2-Ethoxyethanol (110-80-5)  
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties
No additional information available

12.7. Other adverse effects
No additional information available

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.
Additional information  : Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials  : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information
In accordance with ADR / IMDG / IATA / ADN / RID

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
<th>ADN</th>
<th>RID</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number or ID number</td>
<td>UN 1993</td>
<td>UN 1993</td>
<td>UN 1993</td>
<td>UN 1993</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
<td>Flammable liquid, n.o.s.</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
</tr>
</tbody>
</table>

14.3. Transport hazard class(es)

3 3 3 3 3
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol

Safety Data Sheet
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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14.4. Packing group

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
<th>ADN</th>
<th>RID</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

14.5. Environmental hazards

<table>
<thead>
<tr>
<th></th>
<th>Dangerous for the environment: No</th>
<th>Dangerous for the environment: No</th>
<th>Dangerous for the environment: No</th>
<th>Dangerous for the environment: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine pollutant: No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

No supplementary information available

14.6. Special precautions for user

**Overland transport**

Classification code (ADR) : F1
Special provisions (ADR) : 274, 601, 640E
Limited quantities (ADR) : 5l
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P001, IBC03, LP01, R001
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T4
Portable tank and bulk container special provisions (ADR) : TP1, TP29
Tank code (ADR) : LGBF
Vehicle for tank carriage : FL
Transport category (ADR) : 3
Special provisions for carriage - Packages (ADR) : V12
Special provisions for carriage - Operation (ADR) : S2
Hazard identification number (Kemler No.) : 30
Orange plates : 

Tunnel restriction code (ADR) : D/E

**Transport by sea**

Special provisions (IMDG) : 223, 274, 955
Limited quantities (IMDG) : 5 L
Excepted quantities (IMD) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Stowage category (IMDG) : A

**Air transport**

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y344
PCA limited quantity max net quantity (IATA) : 10L
PCA packing instructions (IATA) : 355
PCA max net quantity (IATA) : 60L
CAO packing instructions (IATA) : 366
CAO max net quantity (IATA) : 220L
Special provisions (IATA) : A3
ERG code (IATA) : 3L
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol

Safety Data Sheet
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Inland waterway transport
Classification code (ADN) : F1
Special provisions (ADN) : 274, 601, 640E
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 0

Rail transport
Classification code (RID) : F1
Special provisions (RID) : 274, 601, 640E
Limited quantities (RID) : 5 L
Excepted quantities (RID) : E1
Packing instructions (RID) : P001, IBC03, LP01, R001
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T4
Portable tank and bulk container special provisions (RID) : TP1, TP29
Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Colis express (express parcels) (RID) : CE4
Hazard identification number (RID) : 30

14.7. Maritime transport in bulk according to IMO instruments
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

REACH Annex XVII (Restriction List)

<table>
<thead>
<tr>
<th>EU restriction list (REACH Annex XVII)</th>
<th>Applicable on</th>
<th>Entry title or description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3(a)</td>
<td>N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol; 2-Ethoxyethanol; Ethanol</td>
<td>Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F</td>
</tr>
<tr>
<td>3(b)</td>
<td>N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol; 2-Ethoxyethanol</td>
<td>Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10</td>
</tr>
<tr>
<td>30.</td>
<td>2-Ethoxyethanol</td>
<td>Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.</td>
</tr>
<tr>
<td>40.</td>
<td>2-Ethoxyethanol; Ethanol</td>
<td>Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.</td>
</tr>
</tbody>
</table>
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

REACH Annex XIV (Authorisation List)
Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)
Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: 2-Ethoxyethanol (EC 203-804-1, CAS 110-80-5)

PIC Regulation (Prior Informed Consent)
Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)
Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)
Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)
VOC content : > 40 %

Explosives Precursors Regulation (2019/1148)
Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the Canadian NDSL (Non-Domestic Substances List)

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:

<table>
<thead>
<tr>
<th>Acute Tox. 3 (Inhalation:vapour)</th>
<th>Acute toxicity (inhalation:vapour) Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral), Category 4</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids, Category 3</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
</tbody>
</table>
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol

Safety Data Sheet

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H360FD</td>
<td>May damage fertility. May damage the unborn child.</td>
</tr>
<tr>
<td>Rep. 1B</td>
<td>Reproductive toxicity, Category 1B</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
</tbody>
</table>

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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