SECTION 1: Identification

1.1. Identification

Product name : N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Product code : SIB1140.0
Product form : Mixture
Physical state : Liquid
Formula : C13H31NO5Si
Synonyms : N-TRIETHOXYSILYLPROPYL-N,N-BIS(2-HYDROXYETHYL)AMINE; 2,2’-[3-(TRIETHOXYSILYL)PROPYLMINO]BISETHANOL
Chemical family : ORGANOETHOXYSILANE

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 - 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
- Flammable liquids Category 3 H226 Flammable liquid and vapor
- Skin corrosion/irritation Category 2 H315 Causes skin irritation
- Serious eye damage/eye irritation Category 2A H319 Causes serious eye irritation
- Reproductive toxicity Category 1B H360 May damage fertility or the unborn child
- 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) : Danger
Hazard statements (GHS US) :
- H226 - Flammable liquid and vapor
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation
- H360 - May damage fertility or the unborn child
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol

Safety Data Sheet

Precautionary statements (GHS US)

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, open flames, sparks. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing vapors.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower
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
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a doctor if you feel unwell.
P321 - Specific treatment (see first aid instructions on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Keep in a cool place
P405 - Store locked up.
P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

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.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane</td>
<td>CAS-No.: 7538-44-5</td>
<td>&gt; 60</td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td>Ethanol</td>
<td>CAS-No.: 64-17-5</td>
<td>&lt; 40</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

Print date: 10/23/2023
EN (English US)
SDS ID: SIB1140.0
**N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol**

Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethoxyethanol</td>
<td>CAS-No.: 110-80-5</td>
<td>&lt; 5</td>
<td>Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:vapour), H331 Rep. 1B, H360</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-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 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. 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 (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 irritation.

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

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

**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**: None known.

### 5.2. Specific hazards arising from the chemical

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

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

### 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

**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 Heading 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 vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent accumulation of vapors. 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.
Storage area: Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-Ethoxyethanol (110-80-5)

USA - ACGIH - Occupational Exposure Limits
ACGIH OEL TWA [ppm] 5 ppm
ACGIH chemical category Skin - potential significant contribution to overall exposure by the cutaneous route
USA - ACGIH - Biological Exposure Indices
BEI (BLV) 100 mg/g Kreatinin (Medium: urine - Time: end of shift at end of workweek - Parameter: 2-Ethoxyacetic acid)
USA - OSHA - Occupational Exposure Limits
OSHA PEL (TWA) [1] 740 mg/m³
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet

<table>
<thead>
<tr>
<th>2-Ethoxyethanol (110-80-5)</th>
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<tbody>
<tr>
<td>OSHA PEL (TWA) [2]</td>
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<tr>
<td>Limit value category (OSHA)</td>
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<table>
<thead>
<tr>
<th>USA - IDLH - Occupational Exposure Limits</th>
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<tr>
<td>IDLH [ppm]</td>
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<table>
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<th>USA - NIOSH - Occupational Exposure Limits</th>
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<td>NIOSH REL (TWA)</td>
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<td>NIOSH REL TWA [ppm]</td>
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<td>US-NIOSH chemical category</td>
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<th>Ethanol (64-17-5)</th>
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<td>USA - ACGIH - Occupational Exposure Limits</td>
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<td>ACGIH OEL STEL [ppm]</td>
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<tr>
<td>ACGIH chemical category</td>
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<tbody>
<tr>
<td>OSHA PEL (TWA) [1]</td>
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<tr>
<td>OSHA PEL (TWA) [2]</td>
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<td>IDLH [ppm]</td>
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<table>
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<th>USA - NIOSH - Occupational Exposure Limits</th>
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<tbody>
<tr>
<td>NIOSH REL (TWA)</td>
</tr>
<tr>
<td>NIOSH REL TWA [ppm]</td>
</tr>
</tbody>
</table>

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

8.3. Individual protection measures/Personal protective 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.

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

Appearance: Clear liquid.
Molecular mass: 309.48 g/mol
Color: Straw
Odor: Mild. Ethanol.
Odor threshold: No data available
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: 24 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Flammable liquid and vapor.
Vapor pressure: No data available
Relative vapor density at 20°C: > 1
Relative density: 0.92
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 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 toxicological effects
Acute toxicity (oral): Not classified

Print date: 10/23/2023  EN (English US)  SDS ID: SIB1140.0  6/13
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet

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
LC50 Inhalation - Rat [ppm]: 4267 ppm/4h

Ethanol (64-17-5)
LD50 oral rat: 7060 mg/kg
LC50 Inhalation - Rat: 124.7 mg/l/4h
LC50 Inhalation - Rat [ppm]: 20000 ppm 10 hrs.
LDLo oral rat: 1400 mg/kg (Human)

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitzation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified.
Reproductive toxicity: May damage fertility or the unborn child.
STOT-single exposure: May cause respiratory irritation.
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
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.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Toxic to aquatic life.

2-Ethoxyethanol (110-80-5)
LC50 - Fish [1]: > 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 - Crustacea [1]: > 10000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]: > 0.1 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 72h - Algae [1]: > 1000 mg/l (Species: Desmodesmus subspicatus)

Ethanol (64-17-5)
LC50 - Fish [1]: > 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 - Fish [2]: > 13400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability
No additional information available
12.3. Bioaccumulative potential

2-Ethoxyethanol (110-80-5)
Partition coefficient n-octanol/water (Log Pow) -0.1

Ethanol (64-17-5)
Partition coefficient n-octanol/water (Log Pow) -0.32

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects

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: May be incinerated. Dispose in a safe manner in accordance with local/national regulations.
Additional information: Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
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<tbody>
<tr>
<td>14.1. UN number</td>
<td>1993</td>
<td>Not applicable</td>
<td>1993</td>
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<tr>
<td>14.2. Proper Shipping Name</td>
<td>Flammable liquids, n.o.s. (N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSLILANE, 62% in ethanol))</td>
<td>Not applicable</td>
<td>FLAMMABLE LIQUID, N.O.S. (N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSLILANE E, 62% in ethanol)</td>
</tr>
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Transport document description

UN1993 Flammable liquids, n.o.s. (N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSLILANE E, 62% in ethanol), 3, III

14.3. Transport hazard class(es)

| 3 | Not applicable | 3 | 3 |

Not applicable

Print date: 10/23/2023  EN (English US)  SDS ID: SIB1140.0  8/13
**N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol**  
Safety Data Sheet

### 14.4. Packing group

<table>
<thead>
<tr>
<th>DOT</th>
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<th>IMDG</th>
<th>IATA</th>
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<tr>
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<td>III</td>
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### 14.5. Environmental hazards

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<th>Environment</th>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
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<td>Dangerous for the environment: No</td>
<td>Dangerous for the environment: No</td>
<td>Dangerous for the environment: No</td>
<td>Dangerous for the environment: No</td>
<td></td>
</tr>
</tbody>
</table>

No supplementary information available

### 14.6. Special precautions for user

**DOT**
- UN-No.(DOT): UN1993
- DOT Special Provisions (49 CFR 172.102): B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
- BS2 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.
- IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
- TP4 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

**DOT Packaging Exceptions (49 CFR 173.xxx)**: 150
**DOT Packaging Non Bulk (49 CFR 173.xxx)**: 203
**DOT Packaging Bulk (49 CFR 173.xxx)**: 242
**DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)**: 60 L
**DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)**: 220 L

**DOT Vessel Stowage Location**: A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

**TDG**
- Emergency Response Guide (ERG) Number: 128

**IMDG**
- Special provision (IMDG): 223, 274, 955
- Limited quantities (IMDG): 5 L
- Excepted quantities (IMDG): 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 - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
- EmS-No. (Spillage): S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet

Stowage category (IMDG): A

IATA
PCA Excepted quantities (IATA): E1
PCA Limited quantities (IATA): Y344
PCA limited quantity max net quantity (IATA): 10L
PCA max net quantity (IATA): 60L
CAO packing instructions (IATA): 355
CAO max net quantity (IATA): 220L
Special provision (IATA): A3
ERG code (IATA): 3L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

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):

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS-No.</th>
<th>Listing</th>
<th>Commercial status</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethoxyethanol</td>
<td>110-80-5</td>
<td>Present</td>
<td>Active</td>
<td>T;S</td>
</tr>
<tr>
<td>N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane</td>
<td>7538-44-5</td>
<td>Present</td>
<td>Active</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>Present</td>
<td>Active</td>
<td></td>
</tr>
</tbody>
</table>

2-Ethoxyethanol (110-80-5)
Subject to reporting requirements of United States SARA Section 313
CERCLA RQ
1000 lb

15.2. International regulations

CANADA
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol (7538-44-5)
Listed on the Canadian NDSL (Non-Domestic Substances List)

2-Ethoxyethanol (110-80-5)
Listed on the Canadian DSL (Domestic Substances List)

N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane (7538-44-5)
Listed on the Canadian NDSL (Non-Domestic Substances List)

Ethanol (64-17-5)
Listed on the Canadian DSL (Domestic Substances List)
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet

EU-Regulations

2-Ethoxyethanol (110-80-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane (7538-44-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

2-Ethoxyethanol (110-80-5)
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 the Japanese ISHL (Industrial Safety and Health Law)
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 Pollutant Release and Transfer Register Law (PRTR Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

N,N-Bis(2-hydroxyethyl)-3-aminopropyltriethoxysilane (7538-44-5)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Ethanol (64-17-5)
Listed on IARC (International Agency for Research on Cancer)
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 INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on TECI (Thailand Existing Chemicals Inventory)

15.3. US State regulations

⚠️ WARNING: This product can expose you to Ethylene glycol monoethyl ether, 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.

2-Ethoxyethanol (110-80-5)

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
</table>
N,N-BIS(2-HYDROXYETHYL)-3-AMINOPROPYLTRIETHOXYSILANE, 62% in ethanol
Safety Data Sheet

2-Ethoxyethanol (110-80-5)

| No | Yes | No | Yes | 750 µg/day (oral); 960 µg/day (inhalation) |

2-Ethoxyethanol (110-80-5)

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

Ethanol (64-17-5)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance 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 |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H335 | May cause respiratory irritation |
| H360 | May damage fertility or the unborn child |

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: 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

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