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

1.1. Product identifier

Product form: Mixture
Physical state: Liquid
Product name: N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol
Product code: SIT8189.0
Formula: C15H33NO9Si
Synonyms: GLUCONAMIDOPROPYLTRIETHOXYSILANE
Chemical family: ORGANOETHOXYSILANE

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@gelestde.com - www.gelestde.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 2 H225
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319

Full text of H 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):

Signal word (CLP): Danger
Hazard statements (CLP):
H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection. 
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 
P240 - Ground and bond container and receiving equipment. 
P264 - Wash hands thoroughly after handling. 
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. 
Rinse skin with water or shower. 
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards
Other hazards not contributing to the 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.

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>Classification according to Regulation (EC No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>(CAS-No.) 64-17-5</td>
<td>70</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 200-578-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EC Index-No.) 603-002-00-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-(3-Triethoxysilylpropyl)gluconamide</td>
<td>(CAS-No.) 104275-58-3</td>
<td>30</td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of 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 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 : 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.
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
Suitable extinguishing media : Dry chemical. Dry soda ash.
Unsuitable extinguishing media : Do not use straight streams.

5.2. Special hazards arising from the substance or mixture
Fire hazard : Highly 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.

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. Wear pressure demand self-contained breathing apparatus with full facepiece and full protective clothing.

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. 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 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. Provide good ventilation in process area to prevent formation of vapour. Ground/bond container and receiving equipment. 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 electrical/ventilating/lighting equipment.

Storage conditions: Keep container tightly closed. Store under dry nitrogen or argon in sealed containers. Keep in a cool place.


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

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
<th>MAK (mg/m³)</th>
<th>MAK (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1900 mg/m³</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Austria</td>
<td>3800 mg/m³</td>
<td>2000 ppm</td>
</tr>
<tr>
<td>Belgium</td>
<td>1907 mg/m³</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Belgium</td>
<td>1900 mg/m³</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1000 mg/m³</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>France</td>
<td>1900 mg/m³</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>France</td>
<td>9500 mg/m³</td>
<td>5000 ppm</td>
</tr>
<tr>
<td>France</td>
<td>5000 ppm</td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>
## N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol

### Safety Data Sheet

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulation</th>
<th>Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure</td>
<td>960 mg/m³ (The risk of</td>
<td>damage to the embryo or fetus can be excluded when AGW and BGW values</td>
</tr>
<tr>
<td></td>
<td>limit value (mg/m³)</td>
<td></td>
<td>are observed)</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure</td>
<td>500 ppm (The risk of</td>
<td>damage to the embryo or fetus can be excluded when AGW and BGW values</td>
</tr>
<tr>
<td></td>
<td>limit value (ppm)</td>
<td></td>
<td>are observed)</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (mg/m³)</td>
<td>1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (ppm)</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH STEL (ppm)</td>
<td>1000 ppm</td>
<td></td>
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<tr>
<td>Latvia</td>
<td>OEL TWA (mg/m³)</td>
<td>1000 mg/m³</td>
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<tr>
<td>USA IDLH</td>
<td>US IDLH (ppm)</td>
<td>3300 ppm (10% LEL)</td>
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<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
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<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (ppm)</td>
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<tr>
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<td>VLA-EC (ppm)</td>
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<tr>
<td>Switzerland</td>
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<td>Switzerland</td>
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<td>Switzerland</td>
<td>MAK (ppm)</td>
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<td>Netherlands</td>
<td>Grenswaarde TGG 8H (mg/m³)</td>
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<td>Grenswaarde TGG 15MIN (mg/m³)</td>
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<td>United Kingdom</td>
<td>WEL TWA (mg/m³)</td>
<td>1920 mg/m³</td>
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<tr>
<td>United Kingdom</td>
<td>WEL TWA (ppm)</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (mg/m³)</td>
<td>5760 mg/m³ (calculated)</td>
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</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (ppm)</td>
<td>3000 ppm (calculated)</td>
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</tr>
<tr>
<td>Czech Republic</td>
<td>Expoziční limity (PEL) (mg/m³)</td>
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</tr>
<tr>
<td>Denmark</td>
<td>Grænseværdie (langvarig) (mg/m³)</td>
<td>1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>Grænseværdie (langvarig) (ppm)</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (mg/m³)</td>
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</tr>
<tr>
<td>Finland</td>
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<tr>
<td>Finland</td>
<td>HTP-arvo (15 min)</td>
<td>1300 ppm</td>
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</tr>
<tr>
<td>Hungary</td>
<td>AK-érték</td>
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<td>Hungary</td>
<td>CK-érték</td>
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<td>Ireland</td>
<td>OEL (15 min ref) (ppm)</td>
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</tr>
<tr>
<td>Lithuania</td>
<td>IPRV (mg/m³)</td>
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<td>Lithuania</td>
<td>IPRV (ppm)</td>
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<tr>
<td>Lithuania</td>
<td>TPRV (mg/m³)</td>
<td>1900 mg/m³</td>
<td></td>
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<tr>
<td>Lithuaia</td>
<td>TPRV (ppm)</td>
<td>1000 ppm</td>
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<tr>
<td>Norway</td>
<td>Grenseverdier (AN) (mg/m³)</td>
<td>950 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdier (AN) (ppm)</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdier (Korttidsverdi) (mg/m³)</td>
<td>950 mg/m³</td>
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<td>Norway</td>
<td>Grenseverdier (Korttidsverdi) (ppm)</td>
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<td></td>
</tr>
<tr>
<td>Poland</td>
<td>NDS (mg/m³)</td>
<td>1900 mg/m³</td>
<td></td>
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<tr>
<td>Romania</td>
<td>OEL TWA (mg/m³)</td>
<td>1900 mg/m³</td>
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<tr>
<td>Romania</td>
<td>OEL TWA (ppm)</td>
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<td></td>
</tr>
<tr>
<td>Romania</td>
<td>OEL STEL (mg/m³)</td>
<td>9500 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>OEL STEL (ppm)</td>
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<tr>
<td>Slovakia</td>
<td>NPHV (priemerná) (mg/m³)</td>
<td>960 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (priemerná) (ppm)</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (Hraničná) (mg/m³)</td>
<td>1920 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>
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:

Wear impervious gloves (neoprene or nitrile rubber gloves)

Eye protection:

Goggles. Contact lenses should not be worn

Skin and body protection:

Wear impervious protective clothing. Long-sleeved fire-resistant lab uniform or coverall is recommended.

Respiratory protection:

Where exposure through inhalation may occur from use, use full face NIOSH-certified respirator with APF of 50; organic vapor/amine gas (brown cartridge) is recommended, if air-purifying respirator selected.

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>Appearance</td>
<td>Clear solution.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>399.51 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No additional information available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>78 °C (initial, ethanol)</td>
</tr>
<tr>
<td>Flash point</td>
<td>15 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.951</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>75 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Reacts with water. Dissolves.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
</tbody>
</table>
N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol

Safety Data Sheet

Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : 3.3 - 19 vol % ethanol (lower; upper)

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 under nitrogen or argon in sealed containers.

10.3. Possibility of hazardous reactions
Material decomposes slowly in contact with moist air and rapidly in contact with water.

10.4. Conditions to avoid
Heat. Sparks. Open flame.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Ethanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified

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 (mg/l)</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>LDLo oral rat</td>
<td>1400 mg/kg (Human)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>7060 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE CLP (vapours)</td>
<td>124.7 mg/l/4h</td>
</tr>
<tr>
<td>ATE CLP (dust,mist)</td>
<td>124.7 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Ethanol (64-17-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
<td>1 - Carcinogenic to humans</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Reason for classification</td>
<td>Expert judgment</td>
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</table>

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

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>
N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol
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12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

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

Sewage disposal recommendations: Do not dispose of waste into sewer.

Product/Packaging disposal recommendations: Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Additional information: Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): 1993
UN-No. (IMDG): 1993
UN-No. (IATA): 1993
UN-No. (ADN): 1993
UN-No. (RID): 1993

14.2. UN proper shipping name

Proper Shipping Name (ADR): FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IMDG): FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA): Flammable liquid, n.o.s.
Proper Shipping Name (ADN): FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (RID): FLAMMABLE LIQUID, N.O.S.

Transport document description (ADR): UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol), 3, II, (D/E)

Transport document description (IMDG): UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol), 3, II

Transport document description (IATA): UN 1993 Flammable liquid, n.o.s. (N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol), 3, II

Transport document description (ADN): UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol), 3, II

Transport document description (RID): UN 1993 FLAMMABLE LIQUID, N.O.S. (N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol), 3, II

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR): 3
Danger labels (ADR): 3

IMDG
## N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol
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### Transport hazard class(es) (IMDG)
- **Transport hazard class(es)** (IMDG): 3
- **Danger labels** (IMDG): 3

### IATA
- **Transport hazard class(es)** (IATA): 3
- **Hazard labels** (IATA): 3

### ADN
- **Transport hazard class(es)** (ADN): 3
- **Danger labels** (ADN): 3

### RID
- **Transport hazard class(es)** (RID): 3
- **Danger labels** (RID): 3

### 14.4. Packing group
| Packing group (ADR) |  | II |
| Packing group (IMDG) |  | II |
| Packing group (IATA) |  | II |
| Packing group (ADN) |  | II |
| Packing group (RID) |  | II |

### 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
- **Classification code** (ADR): F1
- **Special provisions** (ADR): 274, 601, 640C
- **Limited quantities** (ADR): 1l
- **Excepted quantities** (ADR): E2
- **Packing instructions** (ADR): P001
- **Mixed packing provisions** (ADR): MP19
- **Portable tank and bulk container instructions** (ADR): T7
# N-(3-TRIETHOXYSILYLPROPYL)GLUCONAMIDE, 30% in ethanol

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<table>
<thead>
<tr>
<th>Portable tank and bulk container special provisions (ADR)</th>
<th>TP1, TP8, TP28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank code (ADR)</td>
<td>L1.5BN</td>
</tr>
<tr>
<td>Vehicle for tank carriage</td>
<td>FL</td>
</tr>
<tr>
<td>Transport category (ADR)</td>
<td>2</td>
</tr>
<tr>
<td>Special provisions for carriage - Operation (ADR)</td>
<td>S2, S20</td>
</tr>
<tr>
<td>Hazard identification number (Kemler No.)</td>
<td>33</td>
</tr>
<tr>
<td>Orange plates</td>
<td></td>
</tr>
</tbody>
</table>

### Tunnel restriction code (ADR)

- **D/E**

### Transport by sea

- **Special provisions (IMDG)**: 274
- **Limited quantities (IMDG)**: 1 L
- **Excepted quantities (IMDG)**: E2
- **Packing instructions (IMDG)**: P001
- **IBC packing instructions (IMDG)**: IBC02
- **Tank instructions (IMDG)**: T7
- **Tank special provisions (IMDG)**: TP1, TP8, TP28
- **EmS-No. (Fire)**: F-E
- **EmS-No. (Spillage)**: S-E
- **Stowage category (IMDG)**: B

### Air transport

- **PCA Exempted quantities (IATA)**: E2
- **PCA Limited quantities (IATA)**: Y341
- **PCA limited quantity max net quantity (IATA)**: 1L
- **PCA packing instructions (IATA)**: 353
- **PCA max net quantity (IATA)**: 5L
- **CAO packing instructions (IATA)**: 364
- **CAO max net quantity (IATA)**: 60L
- **Special provisions (IATA)**: A3
- **ERG code (IATA)**: 3H

### Inland waterway transport

- **Classification code (ADN)**: F1
- **Special provisions (ADN)**: 274, 601, 640C
- **Limited quantities (ADN)**: 1 L
- **Excepted quantities (ADN)**: E2
- **Carriage permitted (ADN)**: T
- **Equipment required (ADN)**: PP, EX, A
- **Ventilation (ADN)**: VE01
- **Number of blue cones/lights (ADN)**: 1

### Rail transport

- **Classification code (RID)**: F1
- **Special provisions (RID)**: 274, 601, 640C
- **Limited quantities (RID)**: 1L
- **Excepted quantities (RID)**: E2
- **Packing instructions (RID)**: P001
- **Mixed packing provisions (RID)**: MP19
- **Portable tank and bulk container instructions (RID)**: T7
- **Portable tank and bulk container special provisions (RID)**: TP1, TP8, TP28
- **Tank codes for RID tanks (RID)**: L1.5BN
- **Transport category (RID)**: 2
- **Colis express (express parcels) (RID)**: CE7
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Hazard identification number (RID) : 33

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
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no REACH Annex XIV substances

% Volatiles : 75 %

15.1.2. National regulations

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BlmSchV
: Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

Netherlands
SZW-lijst van kankerverwekkende stoffen : Ethanol is listed
SZW-lijst van mutageene stoffen : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : Ethanol is listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : Ethanol is listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : Ethanol is listed

Denmark
Class for fire hazard : Class I-1
Store unit : 1 liter
Classification remarks : F <Flam. Liq. 2>: Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

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:
Eye Irrit. 2 : Serious eye damage/eye irritation, Category 2
Flam. Liq. 2 : Flammable liquids, Category 2
Skin Irrit. 2 : Skin corrosion/irritation, Category 2
H225 : Highly flammable liquid and vapour.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
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SDS EU (REACH Annex II) - Custom

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