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

1.1. Product identifier

- **Product form**: Substance
- **Physical state**: Liquid
- **Substance name**: (3-GLYCIDOXYPROPYL)TRIETHOXYSILANE
- **Product code**: SIG5839.0
- **Formula**: C12H26O5Si
- **Synonyms**: SILANE, TRIETHOXY[3-(OXIRANYLMETHOXY)PROPYL]-; OXIRANE, 2-[[3-(TRIETHOXYSILYL)PROPOXY]METHYL]-; TRIETHOXY[3-(OXIRANYLMETHOXY)PROPYL]SILANE; 3-(2,3-EPoxypropoxy)propyl]triethoxysilane
- **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 - 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]**

- **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)**:
  - ![GHS07]

- **Signal word (CLP)**: Warning
- **Hazard statements (CLP)**: H319 - Causes serious eye irritation.
- **Precautionary statements (CLP)**: P280 - Wear protective gloves/protective clothing/eye protection/face protection.
(3-GLYCIDOXYPROPYL)TRIETHOXYSILANE
Safety Data Sheet

GLYCIDOXYPROPYL)TRIETHOXYSILANE
Safety Data Sheet

Print date: 10/04/2019 EN (English) SDS ID: SIG5839.0 2/7

P264 - Wash hands thoroughly after handling.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards
Other hazards not contributing to the classification: This compound liberates ethanol on contact with moisture. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono-constituent</td>
<td>(3-GLYCIDOXYPROPYL)TRIETHOXYSILANE</td>
<td>2602-34-8</td>
<td>220-011-6</td>
</tr>
</tbody>
</table>

<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>(3-Glycidoxypropyl)triethoxysilane</td>
<td>(CAS-No.) 2602-34-8 (EC-No.) 220-011-6</td>
<td>&gt; 95</td>
<td>Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

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/….

First-aid measures after eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. Immediately flush eyes thoroughly with water for at least 15 minutes. 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 irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.
Symptoms/effects after skin contact: May cause 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

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 Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Precautions for safe handling: Provide local exhaust or general room ventilation. Avoid all eye and skin contact and do not breathe vapour and mist.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

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

Storage conditions: Keep container tightly closed.


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: Wear suitable protective clothing

Respiratory protection: NIOSH-certified organic vapor (black 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: 278.42 g/mol

Colour: Straw.

Odour: Mild.

Odour threshold: No data available
### (3-GLYCIDOXYPROPYL)TRIETHOXYSILANE

**Safety Data Sheet**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive index</td>
<td>1.425</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>124 °C @ 3 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>144 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>225 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 1 mm Hg</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>1</td>
</tr>
<tr>
<td>Solubility</td>
<td>Reacts with water</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>3 cSt</td>
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<tr>
<td>Viscosity, dynamic</td>
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</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

**10.1. Reactivity**
Can react exothermically with amines.

**10.2. Chemical stability**
Stable in sealed containers.

**10.3. Possibility of hazardous reactions**
Reacts with water and moisture in air, liberating ethanol.

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

**10.5. Incompatible materials**

**10.6. Hazardous decomposition products**
Ethanol. Organic acid vapors.

### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</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>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 irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>May cause skin irritation.</td>
</tr>
</tbody>
</table>
Symptoms/effects after eye contact: Causes serious eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.
Reason for classification: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

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: May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

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

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

<table>
<thead>
<tr>
<th>Packing group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group (ADR)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (IMDG)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (IATA)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (ADN)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

14.5. Environmental hazards

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous for the environment</td>
<td>No</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Other information</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

14.6. Special precautions for user

- **Overland transport**
  No data available

- **Transport by sea**
  No data available

- **Air transport**
  No data available

- **Inland waterway transport**
  No data available

- **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

No REACH Annex XVII restrictions

(3-GLYCIDOXYPROPYL)TRIETHOXYSILANE is not on the REACH Candidate List

(3-GLYCIDOXYPROPYL)TRIETHOXYSILANE is not on the REACH Annex XIV List

(3-GLYCIDOXYPROPYL)TRIETHOXYSILANE 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**

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

**Netherlands**

SZW-liist van kankerverwekkende stoffen : The substance is not listed

SZW-liist van mutagene stoffen : The substance is not listed

NIET-limitatieve liist van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve liist van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve liist van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:
(3-GLYCIDOXYPROPYL)TRIETHOXYYSISILANE
Safety Data Sheet

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>Eye Irrit. 2</th>
<th>Serious eye damage/eye irritation, Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II) - Custom

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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NOTICE OF SIGNIFICANT NEW USE RULE
SIG5839.0
(3-GLYCIDOXYPROPYL)TRIETHOXYSILANE

Dear Customer:

The chemical product purchased, SIG5839.0 is subject to a U.S. Environmental Protection Agency (EPA) Significant New Use Rule (SNUR) under the Toxic Substances Control Act (TSCA) regulations. Any manufacturer or processor who intends to use a chemical substance for commercial purposes with an identified new use must file a Significant New Use Notification (SNUN) with EPA.

Please reference the US Code of Federal Regulations at 40 CFR Part 721.9501, Silane, triethoxy[3-oxiranylmethoxy]propyl]-, to review the specific designated new uses for (3-GLYCIDOXYPROPYL)TRIETHOXYSILANE [CAS #2602-34-8] which would require EPA approval prior to that new use. If this product will be used for research and development purposes, please reference 40 CFR 721.47 to understand the specific conditions for the research and development exemption.

If you have questions or need more information related to a significant new use of a chemical substance, call the Toxic Substances Control Act (TSCA) Hotline at 202-554-1404 or email: tsca-hotline@epa.gov.

Best Regards,

Gelest, Inc. Regulatory Affairs Department