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

1.1. Product identifier

Product form : Substance
Physical state : Liquid
Substance name : TETRAKIS(2-ETHYLHEXOXY)SILANE
Product code : SIT7283.0
Formula : C32H68O4Si
Synonyms : 2-ETHYL-1-HEXYLSILICATE; TETRA (2-ETHYLHEXYL) SILICATE; 2-ETHYL-1-HEXANOL SILICATE; 2-ETHYLHEXANOL TETRASILICATE
Chemical family : SILICATE ESTER

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Chemical intermediate
For research and industrial use only

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

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 (GHS-US)
Eye Irrit. 2A H319
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling
Hazard pictograms (GHS-US) : GHS07

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H319 - Causes serious eye irritation
Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
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

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Multi-constituent
Name : TETRAKIS(2-ETHYLHEXOXY)SILANE
CAS No : 115-82-2
EC no : 204-109-6
TETRAKIS(2-ETHYLHEXOXY)SILANE
Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
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</thead>
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<tr>
<td>Tetrakis(2-ethylhexoxy)silane</td>
<td>(CAS No) 115-82-2</td>
<td>95 - 100</td>
<td>Eye Irrit. 2A, H319</td>
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<tr>
<td>Ethoxytris(2-ethylhexoxy)silane</td>
<td>(CAS No) Not found</td>
<td>0 - 5</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

3.2. Mixture
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. IF exposed or concerned: Get medical advice/attention.
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: 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/injuries after inhalation: May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact: May cause skin irritation.
Symptoms/injuries after eye contact: Causes serious eye irritation.
Symptoms/injuries 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: 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 or fog for cooling exposed containers. 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 vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors.

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
Storage conditions: Keep container tightly closed.
Incompatible materials: Oxidizing agent.
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: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. 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: 544.97 g/mol
Color: No data available
Odor threshold: No data available
Refractive index: 1.4388
pH: No data available
Relative evaporation rate (butyl acetate=1): < 1
Melting point: No data available
Freezing point: < 0 °C
Boiling point: 194 °C @ 1 mm Hg
Flash point: 188 °C
Auto-ignition temperature: 304 °C
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: 10 mm Hg @ 245°C; <0.1 mm Hg @ 25°C
Relative vapor density at 20 °C: > 1
Relative density: 0.88
VOC content: < 1 %
Solubility: Insoluble in water. Reacts slowly with water.
Log Pow: No data available
Log Kow: No data available
Viscosity, kinematic: 310 cSt @ 40°C; 10.3 cSt @ 25°C; 6.89 cSt @ 38°C
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Explosion limits: No data available
SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Material decomposes slowly in contact with moist air or with water liberating 2-ethylhexanol.

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

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
TETRAKIS(2-ETHYLHEXOXY)SILANE (115-82-2)

Acute toxicity additional information
Dermal Toxicity- rabbit, 500mg open: Mild Irritation Effects

Tetrakis(2-ethylhexoxy)silane (115-82-2)

LD50 oral rat > 22000 mg/kg

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms
Note: The hydrolysis product of this product is 2-ethylhexanol, for which experimental reproductive effects and mutagenic data have been reported. Material generates 2-ethylhexanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating and defatting effect on overexposed tissue.

Symptoms/injuries after inhalation : May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : May be harmful if swallowed.
Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

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. Other adverse effects
Other adverse effects : This substance may be hazardous to the environment.
Effect on ozone layer : No additional information available
TETRAKIS(2-ETHYLHEXOXY)SILANE
Safety Data Sheet

Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

Waste disposal recommendations: Incinerate. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport.

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information: No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Tetrakis(2-ethylhexoxy)silane (115-82-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ethoxytris(2-ethylhexoxy)silane (Not found)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Tetrakis(2-ethylhexoxy)silane (115-82-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Ethoxytris(2-ethylhexoxy)silane (Not found)

15.3. US State regulations

TETRAKIS(2-ETHYLHEXOXY)SILANE (115-82-2)

U.S. - California - Proposition 65 - Carcinogens List: No

U.S. - California - Proposition 65 - Developmental Toxicity: No

U.S. - California - Proposition 65 - Reproductive Toxicity - Female: No

U.S. - California - Proposition 65 - Reproductive Toxicity - Male: No

Tetrakis(2-ethylhexoxy)silane (115-82-2)

U.S. - California - Proposition 65 - Carcinogens List

U.S. - California - Proposition 65 - Developmental Toxicity

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

No significance risk level (NSRL)

Ethoxytris(2-ethylhexoxy)silane (Not found)

U.S. - California - Proposition 65 - Carcinogens List

U.S. - California - Proposition 65 - Developmental Toxicity

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

No significance risk level (NSRL)
Full text of H-phrases:

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

<table>
<thead>
<tr>
<th>Health</th>
<th>2 Moderate Hazard - Temporary or minor injury may occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1 Slight Hazard</td>
</tr>
<tr>
<td>Physical</td>
<td>1 Slight Hazard</td>
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</tbody>
</table>

Prepared by safety and environmental affairs.

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