SECTION 1: Identification

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>SILICON MONOXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>SIS6970.0</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Formula</td>
<td>OSi</td>
</tr>
<tr>
<td>Synonyms</td>
<td>SILICON OXIDE</td>
</tr>
<tr>
<td></td>
<td>SILYLENE, OXO-</td>
</tr>
<tr>
<td></td>
<td>SILICON-SILICON DIOXIDE ALLOY</td>
</tr>
<tr>
<td>Chemical family</td>
<td>INORGANIC SILICATE</td>
</tr>
</tbody>
</table>

1.2. Recommended use of the chemical and restrictions on use

Recommended use: 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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Not classified

2.2. Label elements

GHS-US labeling
No labeling applicable

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Mono-constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>SILICON MONOXIDE</td>
</tr>
<tr>
<td>CAS No</td>
<td>10097-28-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon monoxide (CAS No)</td>
<td>10097-28-6</td>
<td>97-100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

3.2. Mixture

Not applicable

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 to, a doctor or health care Professional.

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**: May cause 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

- **Suitable extinguishing media**: Not combustible.
- **Unsuitable extinguishing media**: None known.

#### 5.2. Special hazards arising from the substance or mixture

- **Fire hazard**: None known.

#### 5.3. Advice for firefighters

- **Protection during firefighting**: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

**SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

- **For non-emergency personnel**
  - **Protective equipment**: Wear protective equipment as described in Section 8.
  - **Emergency procedures**: Evacuate unnecessary personnel.

- **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 product 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**: 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

- **Additional hazards when processed**: While not flammable, the ability of fumed silica to generate static charge may present a hazard when used in combination with flammable liquids.
- **Precautions for safe handling**: Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust.
- **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**: None known.
- **Storage area**: Store in a well-ventilated place. Store away from heat.

**SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

<table>
<thead>
<tr>
<th>Silicon monoxide (10097-28-6)</th>
<th>OSHA</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>15 mg/m³ nuisance dust</th>
</tr>
</thead>
</table>

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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: Safety glasses. 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 dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Appearance: Powder.
Molecular mass: 44.08 g/mol
Color: Off-white to dark brown.
Odor: No data available
Odor threshold: No data available
Refractive index: 1.98
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: 1880 °C
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Not combustible
Vapor pressure: < 0.01 mm Hg @ 20°C
Relative vapor density at 20 °C: No data available
Relative density: 2.13
VOC content: 100 %
Solubility: Insoluble in water.
Log Pow: No data available
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.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products
None known.
SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

<table>
<thead>
<tr>
<th>Silicon monoxide (10097-28-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
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 : May cause eye irritation.
Symptoms/injuries after ingestion : May be harmful if swallowed.

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
Effect on ozone layer : No additional information available
Effect on the global warming : No known effects from this product.
GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Landfill. 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

Silicon monoxide (10097-28-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
Silicon monoxide (10097-28-6)
Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations
Silicon monoxide (10097-28-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations
Silicon monoxide (10097-28-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
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 Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations
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.

HMIS III Rating
Health: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 0 Minimal Hazard - Materials that will not burn
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.

Date of issue: 11/28/2016 Version: 1.0

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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