# SECTION 1: Identification

## 1.1. Identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>SILICON DIOXIDE, amorphous GEL, 40% in water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>SIS6963.4</td>
</tr>
<tr>
<td>Product form</td>
<td>Mixture</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Formula</td>
<td>SiO2</td>
</tr>
<tr>
<td>Synonyms</td>
<td>COLLOIDAL SILICA</td>
</tr>
<tr>
<td>Chemical family</td>
<td>SILICATE SOLUTION</td>
</tr>
</tbody>
</table>

## 1.2. Recommended use and restrictions on use

Recommended use: Chemical intermediate

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## 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)

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# SECTION 2: Hazard(s) identification

## 2.1. Classification of the substance or mixture

**GHS-US classification**

- Skin corrosion/irritation Category 2: H315 - Causes skin irritation
- Serious eye damage/eye irritation Category 2A: H319 - Causes serious eye irritation
- Hazardous to the aquatic environment - Acute Hazard Category 3: H402 - Harmful to aquatic life

Full text of H statements: see section 16

## 2.2. GHS Label elements, including precautionary statements

### GHS US labeling

- **Signal word (GHS US):** Warning
- **Hazard pictograms (GHS US):** !
- **Hazard statements (GHS US):**
  - H315 - Causes skin irritation
  - H319 - Causes serious eye irritation
  - H402 - Harmful to aquatic life
- **Precautionary statements (GHS US):**
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P264 - Wash hands thoroughly after handling.
  - P273 - Avoid release to the environment.
  - P302+P352 - If on skin: Wash with plenty of soap and water.
  - P332+P313 - If skin irritation occurs: Get medical advice/attention.
  - 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.
  - P321 - Specific treatment (see first aid instructions on this label).
  - P301 - Dispose of contents/container to licensed waste disposal facility.

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## 2.3. Hazards not otherwise classified (HNOC)

No additional information available

## 2.4. Unknown acute toxicity (GHS US)

Not applicable

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# 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>Water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>75 - 85</td>
<td>Not classified</td>
</tr>
<tr>
<td>Silicon dioxide, amorphous gel</td>
<td>(CAS-No.) 7631-86-9</td>
<td>35 - 45</td>
<td>Not classified</td>
</tr>
<tr>
<td>Ammonium hydroxide</td>
<td>(CAS-No.) 1336-21-6</td>
<td>1 - 2</td>
<td>Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400</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. 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 (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes (severe) skin burns. Causes alkali burns.

Symptoms/effects after eye contact : Causes serious eye damage.

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 : Not combustible.

Unsuitable extinguish media : None known.

5.2. Specific hazards arising from the chemical

Fire hazard : None known.

Explosion hazard : None known.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. 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

No additional information available
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. Use only in well ventilated areas.

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.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>IDLH (mg/m³)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon dioxide, amorphous gel (7631-86-9)</td>
<td>0.1 mg/m³</td>
<td>10 mg/m³</td>
<td>3000 mg/m³</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Ammonium hydroxide (1336-21-6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH TWA (mg/m³)</td>
<td>17 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH TWA (ppm)</td>
<td>25 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH STEL (mg/m³)</td>
<td>24 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH STEL (ppm)</td>
<td>25 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>35 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (ppm)</td>
<td>50 ppm</td>
<td></td>
<td></td>
<td></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.

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles or face shield. 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

<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>60.09 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No data available</td>
</tr>
<tr>
<td>pH solution</td>
<td>9.1</td>
</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
</tr>
</tbody>
</table>
SILICON DIOXIDE, amorphous GEL, 40% in water
Safety Data Sheet

Melting point : No data available
Freezing point : < 0 °C
Boiling point : 100 °C - Initial (water)
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : < 1 mm Hg 20°C
Relative vapor density at 20 °C : No data available
Relative density : 1.29
Solubility : Soluble 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
Acids. Aluminum metal.

10.6. Hazardous decomposition products
Ammonium hydroxide. Carbon dioxide. Silicon dioxide.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity : Not classified

Water (7732-18-5)
LD50 oral rat > 90 ml/kg

Silicon dioxide, amorphous gel (7631-86-9)
LD50 oral rat > 5000 mg/kg
LD50 dermal rabbit > 2000 mg/kg
LC50 inhalation rat (mg/l) > 2.2 mg/l (Exposure time: 1 h)
Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Silicon dioxide, amorphous gel (7631-86-9)
IARC group 3: Not classifiable
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/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes (severe) skin burns. Causes alkali burns.
Symptoms/effects after eye contact: Causes serious eye damage.
Symptoms/effects after ingestion: May be harmful if swallowed.
Reason for classification: Expert judgment

SECTION 12: Ecological information

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

Silicon dioxide, amorphous gel (7631-86-9)
- LC50 fish 1: 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
- EC50 Daphnia 1: 7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia)

Ammonium hydroxide (1336-21-6)
- LC50 fish 1: 0.53 mg/l
- EC50 Daphnia 1: 0.66 mg/l
- LC50 fish 2: 0.75 - 3.4 mg/l

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
Silicon dioxide, amorphous gel (7631-86-9)
- BCF fish 1: (no bioaccumulation expected)

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 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: Landfill. 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
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
Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
15.2. International regulations

CANADA

Water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria
--- | ---

Silicon dioxide, amorphous gel (7631-86-9)
Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria
--- | ---

Ammonium hydroxide (1336-21-6)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Water (7732-18-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Silicon dioxide, amorphous gel (7631-86-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ammonium hydroxide (1336-21-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Water (7732-18-5)
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 Korean ECL (Existing Chemicals List)
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)

Silicon dioxide, amorphous gel (7631-86-9)
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)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Ammonium hydroxide (1336-21-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Silicon dioxide, amorphous gel (7631-86-9)
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:

H314 | Causes severe skin burns and eye damage
--- | ---
H315 | Causes skin irritation
H318 | Causes serious eye damage
H319 | Causes serious eye irritation
SILICON DIOXIDE, amorphous GEL, 40% in water
Safety Data Sheet

H335 May cause respiratory irritation
H400 Very toxic to aquatic life
H402 Harmful to aquatic life

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; 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 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: 09/09/2015 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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