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

1.1. Product identifier

Product form: Substance
Physical state: Solid
Substance name: SODIUM METASILICATE
Product code: SIS6982.0
Formula: (Na2O3Si)n
Synonyms: DISODIUM TIOXOSILICATE
Chemical family: INORGANIC SILICATE

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)
Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314
Eye Dam. 1 H318
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US):

Signal word (GHS-US): Danger
Hazard statements (GHS-US):
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS-US):
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P260 - Do not breathe dust
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P301+P312 - If swallowed: Call a doctor if you feel unwell
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a doctor
P321 - Specific treatment (see first aid instructions on this label)
P363 - Wash contaminated clothing before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
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

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Multi-constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>SODIUM METASILICATE</td>
</tr>
<tr>
<td>CAS No</td>
<td>6834-92-0</td>
</tr>
<tr>
<td>EC no</td>
<td>229-912-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium metasilicate</td>
<td>(CAS No) 6834-92-0</td>
<td>95 - 100</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td>Sodium orthosilicate</td>
<td>(CAS No) 18027-10-6</td>
<td>1 - 2</td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</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: Treat exposures by protocols for mild caustic. 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 immediate 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 immediate 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: Causes severe skin burns and eye damage.
Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: Causes severe skin burns.
Symptoms/injuries after eye contact: Causes serious eye damage.
Symptoms/injuries after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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 attempt to take action without suitable protective equipment. Avoid contact with skin and eyes. Do not breathe dust.

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: Equip cleanup crew with proper protection. Do not attempt to take action without suitable protective equipment. 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: 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 dust formation. Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. 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. Store in sealed containers under an inert atmosphere. Store locked up.

Incompatible materials: Aluminum. Zinc.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Sodium metasilicate (6834-92-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USA OSHA</strong></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Provide local exhaust or general room ventilation.

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>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Powder.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>122.06 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>White.</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</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>1088 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</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>
</tbody>
</table>
Flammability (solid, gas) : No data available
Vapor pressure : < 0.01 mm Hg @ 20°C
Relative vapor density at 20 °C : No data available
Relative density : 2.4
VOC content : 0 %
Solubility : Water: 270 g/l @ 30°C
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
Slowly reacts with moisture to form sodium metasilicate hydrate. In contact with aluminum and zinc, may liberate hydrogen.

10.4. Conditions to avoid
No additional information available

10.5. Incompatible materials
Aluminum, Zinc.

10.6. Hazardous decomposition products
When heated to decomposition emits sodium peroxide, sodium hydroxide and silicates.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Oral: Harmful if swallowed.

<table>
<thead>
<tr>
<th>SODIUM METASILICATE (6834-92-0)</th>
<th>1280.000 mg/kg body weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
<td>1280 mg/kg</td>
</tr>
<tr>
<td>Sodium metasilicate (6834-92-0)</td>
<td>1280.000 mg/kg body weight</td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>1280 mg/kg</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1280.000 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes severe skin burns and eye damage.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause respiratory irritation.
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : Causes (severe) skin burns.
Symptoms/injuries after eye contact : Causes serious eye damage.
Symptoms/injuries after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Reason for classification : Expert judgment
**SECTION 12: Ecological information**

**12.1. Toxicity**

<table>
<thead>
<tr>
<th>Sodium metasilicate (6834-92-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
<tr>
<td>LC50 fish 2</td>
</tr>
</tbody>
</table>

**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

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 : 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**

<table>
<thead>
<tr>
<th>UN-No. (DOT)</th>
<th>3262</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT NA no.</td>
<td>UN3262</td>
</tr>
</tbody>
</table>

**14.2. UN proper shipping name**

| Proper Shipping Name (DOT)                  | Corrosive solid, basic, inorganic, n.o.s. (SODIUM METASILICATE) |
| Department of Transportation (DOT) Hazard Classes | 8 - Class 8 - Corrosive material 49 CFR 173.136 |

<table>
<thead>
<tr>
<th>Hazard labels (DOT)</th>
<th>8 - Corrosive</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DOT Symbols</th>
<th>G - Identifies PSN requiring a technical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group (DOT)</td>
<td>III - Minor Danger</td>
</tr>
<tr>
<td>DOT Packaging Exceptions (49 CFR 173.xxx)</td>
<td>154</td>
</tr>
<tr>
<td>DOT Packaging Non Bulk (49 CFR 173.xxx)</td>
<td>213</td>
</tr>
<tr>
<td>DOT Packaging Bulk (49 CFR 173.xxx)</td>
<td>240</td>
</tr>
</tbody>
</table>

**14.3. Additional information**

Other information : No supplementary information available.

**Transport by sea**

<table>
<thead>
<tr>
<th>DOT Vessel Stowage Location</th>
<th>A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Vessel Stowage Other</td>
<td>52 - Stow “separated from” acids</td>
</tr>
</tbody>
</table>

**Air transport**

| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | 25 kg |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | 100 kg |
SECTION 15: Regulatory information

15.1. US Federal regulations

**Sodium metasilicate (6834-92-0)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Sodium orthosilicate (18027-10-6)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

**Sodium metasilicate (6834-92-0)**
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on the Canadian DSL (Domestic Substances List)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on the Canadian IDL (Ingredient Disclosure List)
- Listed on INSQ (Mexican Inventory of Chemical Substances)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

**Sodium orthosilicate (18027-10-6)**
- Listed on the Canadian NDSL (Non-Domestic Substances List)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

### SODIUM METASILICATE (6834-92-0)

<table>
<thead>
<tr>
<th>State</th>
<th>Proposition</th>
<th>Regulatory Category</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California</td>
<td>Proposition 65</td>
<td>Carcinogens List</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Proposition 65</td>
<td>Developmental Toxicity</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Proposition 65</td>
<td>Reproductive Toxicity - Female</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Proposition 65</td>
<td>Reproductive Toxicity - Male</td>
<td>No</td>
</tr>
</tbody>
</table>

### Sodium orthosilicate (18027-10-6)

| State                      | Proposition 65 | Carcinogens List    | No       |
|----------------------------| Proposition 65 | Developmental Toxicity | No     |

###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.

Full text of H-phrases:
- **Acute Tox. 4 (Oral)**: Acute toxicity (oral) Category 4
- **Eye Dam. 1**: Serious eye damage/eye irritation Category 1
- **Skin Corr. 1B**: Skin corrosion/irritation Category 1B
- **STOT SE 3**: Specific target organ toxicity (single exposure) Category 3
**H302** Harmful if swallowed

**H314** Causes severe skin burns and eye damage

**H318** Causes serious eye damage

**H335** May cause respiratory irritation

**HMIS III Rating**

- **Health**: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- **Flammability**: 0 Minimal Hazard
- **Physical**: 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 08/31/2015 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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