1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sodium selenite
Product Number : 214485
Brand : Sigma
Supplier : Sigma-Aldrich
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Toxic by inhalation., Highly toxic by ingestion, Skin sensitiser

Target Organs
Liver, Blood, Kidney, Eyes

GHS Classification
Acute toxicity, Oral (Category 2)
Acute toxicity, Inhalation (Category 3)
Skin sensitization (Category 1)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements
Pictogram

Signal word : Danger
Hazard statement(s)
H300 Fatal if swallowed.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 Call a POISON CENTER or doctor/ physician.
P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards
Contact with acids liberates toxic gas.

HMIS Classification
- Health hazard: 3
- Chronic Health Hazard: *
- Flammability: 0
- Physical hazards: 0

NFPA Rating
- Health hazard: 2
- Fire: 0
- Reactivity Hazard: 0

Potential Health Effects
- Inhalation: Toxic if inhaled. May cause respiratory tract irritation.
- Skin: May be harmful if absorbed through skin. May cause skin irritation.
- Eyes: May cause eye irritation.
- Ingestion: May be fatal if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium selenite</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>10102-18-8</td>
</tr>
<tr>
<td>EC-No.</td>
<td>233-267-9</td>
</tr>
<tr>
<td>Index-No.</td>
<td>034-003-00-3</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Dry powder

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Sodium oxides, Selenium/selenium oxides

6. ACCIDENTAL RELEASE MEASURES
Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Do not store near acids.

Moisture sensitive. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
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<tbody>
<tr>
<td>Sodium selenite</td>
<td>10102-18-8</td>
<td>TWA</td>
<td>0.2 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
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<td>TWA</td>
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<td>USA. ACGIH Threshold Limit Values (TLV)</td>
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<tr>
<td>Remarks</td>
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<td>USA. NIOSH Recommended Exposure Limits</td>
</tr>
</tbody>
</table>

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Form: powder, crystalline
- Colour: beige

**Safety data**
- pH: no data available
- Melting point/freezing point: Melting point/range: > 350 °C (> 662 °F) - lit.
- Boiling point: no data available
- Flash point: no data available
- Ignition temperature: no data available
- Auto-ignition temperature: no data available
- Lower explosion limit: no data available
- Upper explosion limit: no data available
- Vapour pressure: no data available
- Density: no data available
- Water solubility: soluble
- Partition coefficient: n-octanol/water: no data available
- Relative vapor density: no data available
- Odour: odourless
- Odour Threshold: no data available
- Evaporation rate: no data available

10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.
Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong acids

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Sodium oxides, Selenium/selenium oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - mouse - 7.08 mg/kg
LD50 Oral - rabbit - 2.25 mg/kg
Cardiac: Pulse rate increased without fall it BP. Lungs, Thorax, or Respiration: Respiratory stimulation. Diarrhoea
LD50 Oral - guinea pig - 5.06 mg/kg
Cardiac: Pulse rate increased without fall it BP. Lungs, Thorax, or Respiration: Respiratory stimulation. Diarrhoea

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
LD50 Intravenous - rat - 3 mg/kg
LD50 Parenteral - rat - 6.57 mg/kg
LD50 Subcutaneous - mouse - 13 mg/kg
LD50 Intravenous - mouse - 5 mg/kg
Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage). Cardiac: Other changes. Lungs, Thorax, or Respiration: Other changes.
LD50 Intracervical - mouse - 0.3 mg/kg
LD50 Intravenous - dog - 1.916 mg/kg
Remarks: Cardiac: Arrhythmias (including changes it conduction). Lungs, Thorax, or Respiration: Respiratory stimulation. Diarrhoea
LD50 Intramuscular - rabbit - 2.53 mg/kg
LD50 Parenteral - Chicken - 8.5 mg/kg
LD50 Intramuscular - Domestic Animals - 1.533 mg/kg

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
May cause allergic skin reaction.

Germ cell mutagenicity
Laboratory experiments have shown mutagenic effects.

**Carcinogenicity**
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: A4 - Not classifiable as a human carcinogen (Sodium selenite)
3 - Group 3: Not classifiable as to its carcinogenicity to humans (Sodium selenite)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

<table>
<thead>
<tr>
<th>Inhlation</th>
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</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>May be fatal if swallowed.</td>
</tr>
<tr>
<td>Skin</td>
<td>May be harmful if absorbed through skin. May cause skin irritation.</td>
</tr>
<tr>
<td>Eyes</td>
<td>May cause eye irritation.</td>
</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**
Salivation, Tremors, Alopecia., Vomiting, Dermatitis

**Synergistic effects**
no data available

**Additional Information**
RTECS: VS7350000

12. ECOLOGICAL INFORMATION

**Toxicity**

| Toxity to fish | LC50 - Oncorhynchus mykiss (rainbow trout) - 2.75 mg/l - 96.0 h |
| Toxity to daphnia and other aquatic | mortality NOEC - Daphnia magna (Water flea) - 0.24 mg/l - 21 d |
invertebrates

mortality LOEC - Daphnia magna (Water flea) - 0.52 mg/l - 21 d
LC50 - Daphnia magna (Water flea) - 0.25 mg/l - 48 h

Persistence and degradability

Bioaccumulative potential

- Bioaccumulation: Lepomis macrochirus - 120 d
- Bioconcentration factor (BCF): 1,850

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

- An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
- Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product

- Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

- Dispose of as unused product.

14. TRANSPORT INFORMATION

**DOT (US)**

- UN number: 2630  Class: 6.1  Packing group: I
- Proper shipping name: Selenites (Sodium selenite)
- Reportable Quantity (RQ): 100 lbs
- Marine Pollutant: Poison Inhalation Hazard: No

**IMDG**

- UN number: 2630  Class: 6.1  Packing group: I
- Proper shipping name: SELENITES (Sodium selenite)
- Marine Pollutant: No

**IATA**

- UN number: 2630  Class: 6.1  Packing group: I
- Proper shipping name: Selenites (Sodium selenite)

15. REGULATORY INFORMATION

**OSHA Hazards**

- Target Organ Effect, Toxic by inhalation., Highly toxic by ingestion, Skin sensitiser

**SARA 302 Components**

- The following components are subject to reporting levels established by SARA Title III, Section 302:
  - Sodium selenite: CAS-No. 10102-18-8  Revision Date 2007-03-01

**SARA 313 Components**

- The following components are subject to reporting levels established by SARA Title III, Section 313:
  - Sodium selenite: CAS-No. 10102-18-8  Revision Date 2007-03-01
**SARA 311/312 Hazards**
Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

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**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

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</table>

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 16. OTHER INFORMATION

**Further information**

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