SECTION 1: Identification

1.1. Identification
Product form  : Substance
Substance name  : Sodium Sulfate Decahydrate
CAS-No.  : 7727-73-3
Formula  : Na$_2$SO$_4$ • 10H$_2$O

1.2. Recommended use and restrictions on use
Use of the substance/mixture : Laboratory Reagent

1.3. Supplier
Manufacturer
Jost Chemical Co.
8150 Lackland Rd.
Saint Louis, Missouri 63114
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number
Emergency number  : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
United States and Canada: 1-800-424-9300 / +1 703-527-3887
Global: +1 703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Not classified

2.2. GHS Label elements, including precautionary statements
GHS-US labeling
No labeling applicable

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Substance type  : Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Sulfate Decahydrate (Main constituent)</td>
<td>(CAS-No.) 7727-73-3</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general  : Depending on the victim's condition: doctor/hospital. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation  : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact  : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First-aid measures after eye contact: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.


4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Slightly harmful in contact with skin. Not irritant to skin. Slightly irritant to respiratory organs. Slightly irritant to eyes.

Symptoms/effects after inhalation: AFTER INHALATION OF DUST: Slight irritation.

Symptoms/effects after skin contact: Unlikely to cause harmful effects.

Symptoms/effects after eye contact: Slight irritation.

Symptoms/effects after ingestion: AFTER INGESTION OF HIGH QUANTITIES: Irritation of the gastric/intestinal mucosa.

Chronic symptoms: No effects known.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD: Non combustible.

Explosion hazard: Not applicable.

Reactivity: Reacts with (strong) acids: release of toxic/combustible gases/vapors (hydrogen sulphide).

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire: Exposure to fire/heat: have neighborhood close doors and windows. Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation.

Firefighting instructions: Dilute toxic gases with water spray.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighborhood close doors and windows.

6.1.2. For emergency responders

Protective equipment: 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

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Hazardous reaction: measure explosive gas-air mixture. If reacting: dilute combustible/toxic gases/vapors. Take account of toxic/corrosive precipitation water.

Methods for cleaning up: Mechanically recover the product. Stop dust cloud by humidifying. Scoop solid spill into closing containers. Wash down leftovers with plenty of water. Wash clothing and equipment after handling.
SECTION 7: Handling and storage

7.1. Precautions for safe handling


Hygiene measures: Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Does not require any specific or particular technical measures.

Storage conditions: Store in a clean, dry warehouse in the original unopened containers. Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible materials: Strong acids. Reactive metals (Al, K, Zn ...).

Storage temperature: < 32 °C

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage: KEEP SUBSTANCE AWAY FROM: (strong) acids.

Storage area: Store in a dry area. Meet the legal requirements.

Special rules on packaging: SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Sodium Sulfate Decahydrate (7727-73-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
</tr>
<tr>
<td>PNEC</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Materials for protective clothing:
GIVE GOOD RESISTANCE: butyl rubber. PVC

Hand protection:
Gloves

Eye protection:
Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection:
Protective clothing

Respiratory protection:
Dust production: dust mask with filter type P1

Personal protective equipment symbol(s):
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>Crystals.</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless or white</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8 (10 %)</td>
</tr>
<tr>
<td>Melting point</td>
<td>32 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.5</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>1460 kg/m³</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>322.19 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water. Soluble in glycerol.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-4.38 (Calculated, US EPA)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 884 °C</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum ignition energy</td>
<td>Not applicable</td>
</tr>
<tr>
<td>SADT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VOC content</td>
<td>0 %</td>
</tr>
<tr>
<td>Other properties</td>
<td>Hygroscopic</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with (strong) acids: release of toxic/combustible gases/vapors (hydrogen sulphide).

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available
10.6. Hazardous decomposition products
Thermal decomposition generates: Sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

**Sodium Sulfate Decahydrate (7727-73-3)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 10000 mg/kg (Rat)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 2.4 mg/l/4h (Dust) (OECD 436 Method) (Published Data)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified (Based on available data, the classification criteria are not met) pH: 8 (10 %)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified (Based on available data, the classification criteria are not met) pH: 8 (10 %)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified (Lack of data)</td>
</tr>
</tbody>
</table>

**Sodium Sulfate Decahydrate (7727-73-3)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL (oral, rat)</td>
<td>160 mg/kg body weight (OECD 414 method)</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified (Not applicable)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Likely routes of exposure</td>
<td>Skin and eye contact.</td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Non-toxic if swallowed (LD50 oral, rat &gt; 5000 mg/kg). Slightly harmful in contact with skin. Not irritant to skin. Slightly irritant to respiratory organs. Slightly irritant to eyes.</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>AFTER INHALATION OF DUST: Slight irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Unlikely to cause harmful effects.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Slight irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>AFTER INGESTION OF HIGH QUANTITIES: Irritation of the gastric/intestinal mucosa.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>No effects known.</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

12.1. Toxicity

**Ecology - general** : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
**Ecology - air** : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

**Sodium Sulfate Decahydrate (7727-73-3)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>3040 mg/l (96 h, Lepomis macrochirus)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>2564 mg/l (48 h, Daphnia magna)</td>
</tr>
<tr>
<td>LOEC (chronic)</td>
<td>&gt; 100 mg/l (7 days; Ceriodaphnia dubia)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

**Sodium Sulfate Decahydrate (7727-73-3)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
Sodium Sulfate Decahydrate
Safety Data Sheet

Sodium Sulfate Decahydrate (7727-73-3)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Sodium Sulfate Decahydrate (7727-73-3)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF other aquatic organisms 1</td>
<td>0.5 (Other, Calculated value)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-4.38 (Calculated, US EPA)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No bioaccumulation data available.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

Sodium Sulfate Decahydrate (7727-73-3)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>0.071 N/m (20 °C, 1.005 g/l)</td>
</tr>
<tr>
<td>Ecology · soil</td>
<td>No (test)data on mobility of the substance available.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : LWCA (the Netherlands): KGA category 05.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.
Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Recycle/reuse. Remove to an authorized dump (Class I). Precipitate/make insoluble.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated

Transportation of Dangerous Goods

Proper Shipping Name (Transportation of Dangerous Goods) : Not regulated for transport

Transport by sea

Proper Shipping Name (IMDG) : Not regulated for transport

Air transport

Proper Shipping Name (IATA) : Not regulated for transport

SECTION 15: Regulatory information

15.1. US Federal regulations

Sodium Sulfate Decahydrate (7727-73-3)

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

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
Sodium Sulfate Decahydrate
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.2. International regulations

CANADA

**Sodium Sulfate Decahydrate (7727-73-3)**
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

**Sodium Sulfate Decahydrate (7727-73-3)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

**Sodium Sulfate Decahydrate (7727-73-3)**
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 INSQ (Mexican national Inventory of 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 Sulfate Decahydrate (7727-73-3)**
State or local regulations
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) List

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

SECTION 16: Other information
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 06/12/2018

**NFPA health hazard**
: 1 - Materials that, under emergency conditions, can cause significant irritation.

**NFPA fire hazard**
: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

**NFPA reactivity**
: 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 0 Minimal Hazard - Materials that will not burn
Physical : 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

SDS US (HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product