Material Safety Data Sheet

Section 1 - Product and Company Information

Product Name: Sodium hydrosulfite
Product Number: S1256
Brand: Sigma Chemical

Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5896

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
<th>EC No</th>
<th>Annex I Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROSULFITE</td>
<td>7775-14-6</td>
<td>No</td>
<td>231-890-0</td>
<td>016-028-00-1</td>
</tr>
</tbody>
</table>

Formula: Na2O4S2
Synonyms: SODIUM DITHIONITE

Section 3 - Hazards Identification

Emergency Overview
Harmful.
May cause fire. Reacts violently with water. Harmful if swallowed. Contact with water liberates toxic gas. Contact with acids liberates toxic gas.
Exothermic in contact with water

HMIS Rating
Health: 2  Flammability: 3  Reactivity: 2  Special Hazard(s): Water reactive

NFPA Rating
Health: 2  Flammability: 3  Reactivity: 2  Special Hazard(s): Water reactive

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flammable Hazards: Yes

Explosion Data
Dust Potential
This material, like most materials in powder form, is capable of creating a dust explosion.

Conditions of Flammability
Addition of small amounts of water or temperature's above 100°C may cause self ignition.

Autoignition Temp: N/A
Flammability: Yes

Extinguishing Media
Suitable
Dry chemical powder.

Unsuitable
Do not use water.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Flammable solid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

Procedure(s) of Personal Precaution(s)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep container closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.
Incompatible Materials
Do not allow contact with water. Avoid contact with acid.
Special Requirements
Air sensitive.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Government approved respirator.

Hand
Compatible chemical-resistant gloves.

Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight: 174.11 AMU

pH
N/A
BP/BP Range
N/A
MP/MP Range 300 °C
Freezing Point
N/A
Vapor Pressure
N/A
Vapor Density
N/A
Saturated Vapor Conc.
N/A
SG/Density
N/A
Bulk Density
N/A
Odor Threshold
N/A
Volatile%
N/A
VOC Content
N/A
Water Content
N/A
Solvent Content
N/A
Evaporation Rate
N/A
Viscosity
N/A
Partition Coefficient
N/A
Decomposition Temp.
N/A
Flash Point °F
N/A
Flash Point °C
N/A
Explosion Limits
N/A

Flammability
N/A
Autoignition Temp
N/A
Solubility
N/A
N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable

Conditions to Avoid
Sensitive to air. Do not allow water to enter container because of violent reaction.

Materials to Avoid
Strong oxidizing agents, Acids.

Hazardous Decomposition Products
Hazardous Decomposition Products
Sulfur oxides, Sodium/sodium oxides.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.

Skin Absorption
May be harmful if absorbed through the skin.

Eye Contact
May cause eye irritation.

Inhalation
May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion
Harmful if swallowed.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

Section 12 - Ecological Information

Acute Ecotoxicity Tests
Test Type
LC50 Fish

Species
Leuciscus idus

Time: Value:
96.0 h 10 - 100 mg/l

Test Type
EC50 Daphnia

Species
Daphnia magna

Time: Value:
48.0 h 10 - 100 mg/l

Test Type
IC50 Algae

Time: Value:
72.0 h > 100 mg/l
Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Sodium dithionite [or] Sodium hydrosulfite
UN#: 1384
Class: 4.2
Packing Group: Packing Group II
Hazard Label: Spontaneously combustible
PIH: Not PIH

IATA
Proper Shipping Name: SODIUM DITHIONITE
IATA UN Number: 1384
Hazard Class: 4.2
Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification
Symbol of Danger: Xn
Indication of Danger
Harmful.
Risk Statements
R: 7 22 31
May cause fire. Harmful if swallowed. Contact with acids liberates toxic gas.
Safety Statements
S: 7/8 26 28 43
Keep container tightly closed and dry. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap-suds. In case of fire, use dry powder. Never use water.

US Classification and Label Text
Indication of Danger
Harmful.
Risk Statements
May cause fire. Reacts violently with water. Harmful if swallowed. Contact with water liberates toxic gas. Contact with acids liberates toxic gas.
Safety Statements
Keep container tightly closed and dry. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap-suds. In case of fire, use dry powder. Never use water. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements
Exothermic in contact with water

United States Regulatory Information
SARA Listed: No

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No
Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.