Material Safety Data Sheet

Section 1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Sodium Thiosulfate, Anhydrous</th>
<th>Product Code</th>
<th>SX0820</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>EMD Chemicals Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.O. Box 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>480 Democrat Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gibbstown, NJ 08027</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prior to January 1, 2003 EMD Chemicals Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>was EM Industries, Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>or EM Science, Division of EM Industries, Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For More Information Call</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>856-423-6300 Technical Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday-Friday: 8:00 AM - 5:00 PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synonym</td>
<td>Hypo: Sodium Hyposulfate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material Uses</td>
<td>Analytical reagent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Inorganic salt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM THIOSULFATE</td>
<td>7772-98-7</td>
<td>100</td>
</tr>
</tbody>
</table>

Section 3. Hazards Identification

Physical State and Appearance
Solid. (Powder or crystals)

Emergency Overview
WARNING!
MAY BE HARMFUL IF SWALLOWED.
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Routes of Entry
Absorbed through skin. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

<table>
<thead>
<tr>
<th>Eyes</th>
<th>May be hazardous in case of eye contact (irritant).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May be hazardous in case of inhalation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be hazardous in case of ingestion.</td>
</tr>
</tbody>
</table>

Potential Chronic Health Effects

Carcinogenic Effects
This material is not known to cause cancer in animals or humans.

Medical Conditions Aggravated by Overexposure:
Repeated or prolonged exposure is not known to aggravate medical condition.

Additional information See Toxicological Information (section 11)

Continued on Next Page
Section 4. First Aid Measures

Eye Contact
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

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

Ingestion
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product
Non-flammable.

Auto-ignition Temperature
Not applicable.

Flash Points
Not applicable.

Flammable Limits
Not applicable.

Products of Combustion
Not applicable.

Fire Hazards in Presence of Various Substances
Not applicable.

Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of static discharge: No.
Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions
Not applicable.

Protective Clothing (Fire)
Not applicable.

Special Remarks on Fire Hazards
Thermal decomposition may release toxic and/or hazardous gases.

Special Remarks on Explosion Hazards
Not available.

Section 6. Accidental Release Measures

Small Spill and Leak
Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill and Leak
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Spill Kit Information
No specific spill kit required for this product. Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth, and place in container for disposal according to local regulations (see section 13). ALWAYS CONTACT PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

Continued on Next Page
**Section 7. Handling and Storage**

**Handling**
Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

**Storage**
Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Section 8. Exposure Controls/Personal Protection**

**Engineering Controls**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection**

- **Eyes** Splash goggles.
- **Body** Lab coat.
- **Respiratory** Dust respirator. Be sure to use an approved/certified respirator or equivalent.
- **Hands** Gloves.
- **Feet** Not applicable.

**Protective Clothing (Pictograms)**

- Splash goggles.
- Full suit.
- Dust respirator.
- Boots.
- Gloves.

**Personal Protection in Case of a Large Spill**
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Product Name**
SODIUM THIOSULFATE

**Exposure Limits**
Not available.

**Section 9. Physical and Chemical Properties**

**Odor**
Odorless.

**Color**
Colorless to white.

**Physical State and Appearance**
Solid. (Powder or crystals)

**Molecular Weight**
158.11 g/mole

**Molecular Formula**
Na2S2O3

**pH**
Not available.

**Boiling/Condensation Point**
Decomposes.

**Melting/Freezing Point**
Not available.

**Specific Gravity**
1.667 (Water = 1)

**Vapor Pressure**
Not available.

**Vapor Density**
Not available.

**Odor Threshold**
Not available.

**Evaporation Rate**
Not available.

**Continued on Next Page**
Solubility Soluble in water.

**Section 10. Stability and Reactivity**

<table>
<thead>
<tr>
<th>Stability and Reactivity</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions of Instability</td>
<td>Hygroscopic; keep container tightly closed.</td>
</tr>
<tr>
<td>Incompatibility with Various Substances</td>
<td>Highly reactive with oxidizing agents, acids. Reactive with metals.</td>
</tr>
<tr>
<td>Rem/Incompatibility</td>
<td>Incompatible with Iodine, Mercury, Lead, Silver Salt. Incompatible with heavy metals.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Na2O, SOx</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

**Section 11. Toxicological Information**

<table>
<thead>
<tr>
<th>RTECS Number:</th>
<th>Sodium Thiosulfate, Anhydrous XN6476000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>LD₅₀: Not available. LC₅₀: Not available.</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>Contains material which may cause damage to the following organs: mucous membranes.</td>
</tr>
<tr>
<td>Acute Effects on Humans</td>
<td>May be hazardous in case of eye contact (irritant). May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May be hazardous in case of inhalation. May be hazardous in case of ingestion.</td>
</tr>
<tr>
<td>Synergetic Products (Toxicologically)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Irritancy</td>
<td>Draize Test: Not available.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Not available.</td>
</tr>
<tr>
<td>Carcinogenic Effects</td>
<td>This material is not known to cause cancer in animals or humans.</td>
</tr>
<tr>
<td>Toxicity to Reproductive System</td>
<td>Not available.</td>
</tr>
<tr>
<td>Teratogenic Effects</td>
<td>Not available.</td>
</tr>
<tr>
<td>Mutagenic Effects</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Section 12. Ecological Information**

| Ecotoxicity | Not available. |
| BOD₅ and COD | Not available. |
| Toxicity of the Products of Biodegradation | The products of degradation are less toxic than the product itself. |
Section 13. Disposal Considerations

EPA Waste Number  Not available.

Treatment  Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

Section 14. Transport Information

DOT Classification  Proper Shipping Name: CHEMICALS, N.O.S.
RQ: Not applicable.

TDG Classification  Not available.

IMO/IMDG Classification  Proper Shipping Name: CHEMICALS, N.O.S.
RQ: Not applicable.

ICAO/IATA Classification  Proper Shipping Name: CHEMICALS, N.O.S.
RQ: Not applicable.

Section 15. Regulatory Information

U.S. Federal Regulations  TSCA 8(b) inventory: SODIUM THIOSULFATE
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: SODIUM THIOSULFATE
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: SODIUM THIOSULFATE: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada)  Not controlled under WHMIS (Canada).

CEPA DSL: SODIUM THIOSULFATE
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS  SODIUM THIOSULFATE  231-867-5

DSCL (EEC)  R36/38- Irritating to eyes and skin.

International Lists
Australia (NICNAS): SODIUM THIOSULFATE
Germany water class: SODIUM THIOSULFATE
Japan (MITI): SODIUM THIOSULFATE
Korea (TCCL): SODIUM THIOSULFATE
Philippines (RA6969): SODIUM THIOSULFATE
China: No products were found.

State Regulations  New Jersey: SODIUM THIOSULFATE
California prop. 65: No products were found.

Continued on Next Page
Section 16. Other Information

Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.