Material Safety Data Sheet

Sodium Sulfate

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sodium Sulfate

OTHER/GENERIC NAMES: Disodium sulfate  
                        Sodium sulfate anhydrous

PRODUCT USE: Industrial

MANUFACTURER: General Chemical Corporation  
                90 East Halsey Road  
                Parsippany, NJ 07054

FOR MORE INFORMATION CALL: 973-515-1840  
IN CASE OF EMERGENCY CALL: 800-631-8050  
(Monday-Friday, 9:00am-4:30pm)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>CAS NUMBER</th>
<th>WEIGHT %</th>
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<tbody>
<tr>
<td>Sodium sulfate</td>
<td>7757-82-6</td>
<td>&gt;95</td>
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</tbody>
</table>

Trace impurities and additional material names not listed above may appear in Section 15 of this MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

OSHA Hazard Communication Standard: This product is considered hazardous under the OSHA Hazard Communication Standard.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: A white powder or granular material. Odorless. May cause irritation to the eyes, respiratory tract and gastrointestinal tract. Not flammable.

POTENTIAL HEALTH HAZARDS

SKIN: Effects of sodium sulfate are minimal, but irritation may result from prolonged skin contact.

EYES: Contact with dust or mist may irritate eyes.

INHALATION: Dust inhalation may irritate the nose, throat and lungs.

INGESTION: Not generally considered toxic. However, if swallowed, irritation may develop in the mouth, esophagus and stomach. The sulfate ion draws water into the intestines and causes purging.

DELAYED EFFECTS: None known.

Ingredients found on one of the three OSHA designated carcinogen lists are listed below.

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>NTP STATUS</th>
<th>IARC STATUS</th>
<th>OSHA LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ingredients listed in this section.</td>
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</table>
4. FIRST AID MEASURES

SKIN: Wash with plenty of soap and water, removing contaminated clothing. If irritation develops, get medical attention.

EYES: Flush promptly with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

INHALATION: Remove to fresh air. If breathing is difficult, give oxygen provided a qualified operator is available. Get medical attention for irritation or discomfort.

INGESTION: If conscious, give 2 to 4 glasses of water, then induce vomiting by touching back of throat with finger. Get medical attention.

ADVICE TO PHYSICIAN: Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: Not flammable.
FLASH POINT METHOD: Not applicable.
AUTOIGNITION TEMPERATURE: Not applicable.
UPPER FLAME LIMIT (volume % in air): Not applicable.
LOWER FLAME LIMIT (volume % in air): Not applicable.
FLAME PROPAGATION RATE (solids): Not applicable.
OSHA FLAMMABILITY CLASS: Not applicable.

EXTINGUISHING MEDIA:
Any standard agent.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
None, other than potential explosion resulting if sodium sulfate is melted with aluminum.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:
Although not flammable, if involved in a fire, firefighters should wear full protective clothing and, if acrid fumes develop, use NIOSH-approved, self-contained breathing apparatus. Cool fire-exposed containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (See section 8 for recommended personal protective equipment.) Shovel up dry chemical for use or disposal. Sweep up with a minimum of dusting and maximize recovery. Flush residue with water, if permitted by applicable disposal regulations.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.
MATERIAL SAFETY DATA SHEET
Sodium Sulfate

7. HANDLING AND STORAGE

NORMAL HANDLING: (See section 8 for recommended personal protective equipment.) Avoid contact with skin, eyes and clothing. Avoid breathing dust. Wash thoroughly after handling and follow good personal hygiene and good housekeeping practices. Keep containers closed. Handle in a manner to minimize dusting.

STORAGE RECOMMENDATIONS: Store in a cool, dry area. Keep well closed and protect from moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide local exhaust if dusty conditions prevail. Natural ventilation is generally adequate in the absence of dusty conditions.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: Wear long-sleeve shirt, trousers and gloves for routine product use or handling.

EYE PROTECTION: Under normal conditions, wear safety glasses. Under dusty conditions, wear chemical safety goggles. Do not wear contact lenses.

RESPIRATORY PROTECTION: Under normal conditions, not required. Where dusty conditions develop, use a NIOSH-approved respirator for dusts.

ADDITIONAL RECOMMENDATIONS: Eye wash and safety showers.

EXPOSURE GUIDELINES

INGREDIENT NAME       ACGIH TLV    OSHA PEL     OTHER LIMIT
No ingredients listed in this section.

1 = Limit established by General Chemical Corporation.
2 = Workplace Environmental Exposure Level (AIHA).
3 = Biological Exposure Index (ACGIH).

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS: None.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White powder or granular material.

PHYSICAL STATE: Solid.

MOLECULAR WEIGHT: 142.04

CHEMICAL FORMULA: Na₂SO₄

ODOR: Odorless.

SPECIFIC GRAVITY (water = 1.0): 2.68
10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):
Stable under normal conditions. Protect from moisture (hygroscopic); keep tightly closed.

INCOMPATIBILITIES:
Molten active metals, including aluminum and magnesium.

HAZARDOUS DECOMPOSITION PRODUCTS:
None.

HAZARDOUS POLYMERIZATION:
Will not occur.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:
LD₅₀ (oral-mouse): 5989 mg/kg

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:
Data not available.

OTHER DATA:
None.

12. ECOLOGICAL INFORMATION

Data not available.

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded?  No  If yes, the RCRA ID number is:  Not applicable
OTHER DISPOSAL CONSIDERATIONS:

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS: Not regulated
US DOT ID NUMBER: 
PROPER SHIPPING NAME: 

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Listed on the TSCA Inventory.
OTHER TSCA ISSUES: None

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>SARA/CERCLA RQ (lb)</th>
<th>SARA EHS TPQ (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ingredients listed in this section.</td>
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Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Immediate

SARA 313 TOXIC CHEMICALS:
The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

<table>
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STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

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</table>
ADDITIONAL REGULATORY INFORMATION:
  None

WHMIS CLASSIFICATION (CANADA):  
  Not determined

FOREIGN CHEMICAL CONTROL INVENTORY STATUS:  
  Listed on Canadian DSL and European EINECS

16. OTHER INFORMATION

CURRENT ISSUE DATE:  January, 2003
PREVIOUS ISSUE DATE:  July, 1995

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:
  New format.

OTHER INFORMATION:  Not for Food or Drug Use.