1. Product Identification

Synonyms: Sodium hydrogen sulfate; sodium acid sulfate; sulfuric acid, monosodium salt, monohydrate
CAS No.: 7681-38-1 (Anhydrous)
Molecular Weight: 138.08
Chemical Formula: NaHSO4 . H2O
Product Codes:
J.T. Baker: 3534
Macron: 7432

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Bisulfate</td>
<td>7681-38-1</td>
<td>90 - 100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Emergency Overview

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. MAY BE HARMFUL OR FATAL IF SWALLOWED.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Life)
Flammability Rating: 0 - None
Reactivity Rating: 1 - Slight
Contact Rating: 3 - Severe (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)
Potential Health Effects

----------------------------------

**Inhalation:**
Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

**Ingestion:**
Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea.

**Skin Contact:**
Corrosive. Symptoms of redness, pain, and severe burn can occur.

**Eye Contact:**
Acidic irritant. Pain, tearing and redness can occur. Crystalline dust may also be abrasive. Solutions are acidic and splashes may cause eye damage.

**Chronic Exposure:**
Lung irritation, tracheal bronchitis, persistent coughing, and corrosion of teeth are possible effects from long term exposure to dust, mist or fumes from wet or moist sodium bisulfate.

**Aggravation of Pre-existing Conditions:**
No information found.

---

4. First Aid Measures

**Inhalation:**
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**
If swallowed, **DO NOT INDUCE VOMITING.** Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

---

5. Fire Fighting Measures

**Fire:**
Not considered to be a fire hazard.

**Explosion:**
Not considered to be an explosion hazard.

**Fire Extinguishing Media:**
Use any means suitable for extinguishing surrounding fire. Water may be used to cool containers and to knock down vapors in a fire situation. Do not use water on material itself or allow water to get inside container.

**Special Information:**
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

---

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.
7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
None established.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half-face respirator with an acid gas cartridge and particulate (NIOSH type N95 or better) filter may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an acid gas cartridge and particulate (NIOSH type N100) filter may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:
Colorless crystals.

Odor:
Odorless.

Solubility:
67g/100g water.

Density:
2.10

pH:
1.4

% Volatiles by volume @ 21C (70F):
0

Boiling Point:
Not applicable.

Melting Point:
58C (136F)

Vapor Density (Air=1):
No information found.

Vapor Pressure (mm Hg):
10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Hygroscopic.

Hazardous Decomposition Products:
Oxides of sulfur and the contained metal.

Hazardous Polymerization:
Will not occur.

Incompatibilities:
Strong bases, calcium hypochlorite and sodium carbonate.

Conditions to Avoid:
Moisture, dusting and incompatibles.

11. Toxicological Information

Oral LD50 Rat: 2490 mg/kg.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>--NTP Carcinogen---</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Bisulfate (7681-38-1)</td>
<td>Known</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

12. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
Water Flea Data: 48 Hr EC50 Daphnia magna: 190 mg/L

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (SODIUM BISULFATE)
Hazard Class: 8
UN/NA: UN3260
Packing Group: III
Information reported for product/size: 12KG
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (SODIUM BISULFATE)
Hazard Class: 8
UN/NA: UN3260
Packing Group: III
Information reported for product/size: 12KG

15. Regulatory Information

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
<th>Japan</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Bisulfate</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

 Ingredient  | Korea | DSL | NDSL | Phil. |
 Sodium Bisulfate | Yes | Yes | No | Yes |

 Ingredient  | RQ | TPQ | List | Chemical Catg. |
 Sodium Bisulfate | No | No | No | No |

 Ingredient  | CERCLA | 261.33 | 8(d) |
 Sodium Bisulfate | No | No | No |

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Mixture / Solid)

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0
Label Hazard Warning:
DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. MAY BE HARMFUL OR FATAL IF SWALLOWED.
Label Precautions:
Do not get in eyes, on skin, or on clothing.
Do not breathe dust.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.

Label First Aid:
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

Product Use:
Laboratory Reagent.

Revision Information:
No Changes.

Disclaimer:
********************************************************************************************
THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED “AS IS,” AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION, WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE.
THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.
********************************************************************************************
Prepared by: Environmental Health & Safety