# Material Safety Data Sheet

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>See Section 15.</td>
</tr>
</tbody>
</table>

## Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Common Name/Trade Name</th>
<th>Code</th>
<th>CAS#</th>
<th>RTECS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>METOL</td>
<td></td>
<td>55-55-0</td>
<td>SL8650000</td>
<td>TSCA 8(b) inventory: METOL</td>
</tr>
</tbody>
</table>

### Manufacturer
SPECTRUM CHEMICAL MFG. CORP.  
14422 S. SAN PEDRO STREET  
GARDENA, CA 90248

### Commercial Name(s)
Pictol

### Synonym
Methyl-p-aminophenol Sulfate

### Chemical Name
Methyl-p-aminophenol Sulfate

### Chemical Family
Not available.

### Chemical Formula
C14H20N2O6S

### Supplier
SPECTRUM CHEMICAL MFG. CORP.  
14422 S. SAN PEDRO STREET  
GARDENA, CA 90248

## Section 2. Composition and Information on Ingredients

### Exposure Limits

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) METOL</td>
<td>55-55-0</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Toxicological Data on Ingredients

**LD50:** Not available.  
**LC50:** Not available.

## Section 3. Hazards Identification

### Potential Acute Health Effects
Hazardous in case of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (irritant), of inhalation.

### Potential Chronic Health Effects
Hazardous in case of eye contact (irritant), of ingestion.  
Slightly hazardous in case of skin contact (irritant), of inhalation.

**CARCINOGENIC EFFECTS:** Not available.  
**MUTAGENIC EFFECTS:** Not available.  
**TERATOGENIC EFFECTS:** Not available.  
**DEVELOPMENTAL TOXICITY:** Not available.

---

Continued on Next Page
## Section 4. First Aid Measures

<table>
<thead>
<tr>
<th>Eye Contact</th>
<th>Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Contact</td>
<td>After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.</td>
</tr>
<tr>
<td>Serious Skin Contact</td>
<td>Not available.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Allow the victim to rest in a well ventilated area. Seek immediate medical attention.</td>
</tr>
<tr>
<td>Serious Inhalation</td>
<td>Not available.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.</td>
</tr>
<tr>
<td>Serious Ingestion</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

## Section 5. Fire and Explosion Data

<table>
<thead>
<tr>
<th>Flammability of the Product</th>
<th>May be combustible at high temperature.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-Ignition Temperature</td>
<td>532°C (989.6°F)</td>
</tr>
<tr>
<td>Flash Points</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Combustion</td>
<td>These products are carbon oxides (CO, CO(_2)), nitrogen oxides (NO, NO(_2)...).</td>
</tr>
<tr>
<td>Fire Hazards in Presence of Various Substances</td>
<td>Not available.</td>
</tr>
<tr>
<td>Fire Fighting Media and Instructions</td>
<td>SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.</td>
</tr>
<tr>
<td>Special Remarks on Fire Hazards</td>
<td>Not available.</td>
</tr>
<tr>
<td>Special Remarks on Explosion Hazards</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

## Section 6. Accidental Release Measures

<table>
<thead>
<tr>
<th>Small Spill</th>
<th>Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Spill</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

**Precautions**
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible.

**Storage**
Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

## 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**
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. 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.

**Exposure Limits**
Not available.

## Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state and appearance</td>
<td>Solid.</td>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>344.39 g/mole</td>
<td>Taste</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH (1% soln/water)</td>
<td>Not available.</td>
<td>Color</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting Point</td>
<td>Decomposes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Temperature</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water/Oil Dist. Coeff.</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ionicity (in Water)</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dispersion Properties</td>
<td>See solubility in water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
<td>Partially soluble in cold water.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Section 10. Stability and Reactivity Data

**Stability**
The product is stable.

**Instability Temperature**
Not available.

**Conditions of Instability**
Not available.

**Incompatibility with various substances**
Not available.

*Continued on Next Page*
**Corrosivity**
Non-corrosive in presence of glass.

**Special Remarks on Reactivity**
Not available.

**Special Remarks on Corrosivity**
Not available.

**Polymerization**
No.

---

**Section 11. Toxicological Information**

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Eye contact. Ingestion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to Animals</td>
<td>LD50: Not available. LC50: Not available.</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Toxic Effects on Humans</td>
<td>Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), of inhalation.</td>
</tr>
</tbody>
</table>

**Special Remarks on Toxicity to Animals**
Not available.

**Special Remarks on Chronic Effects on Humans**
Not available.

**Special Remarks on other Toxic Effects on Humans**
Not available.

---

**Section 12. Ecological Information**

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 and COD</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Biodegradation</td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td>Toxicity of the Products of Biodegradation</td>
<td>The products of degradation are more toxic.</td>
</tr>
</tbody>
</table>

**Special Remarks on the Products of Biodegradation**
Not available.

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**Section 13. Disposal Considerations**

| Waste Disposal | Recycle to process, if possible. Consult your local or regional authorities. |

---

**Section 14. Transport Information**

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>Not a DOT controlled material (United States).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Special Provisions for Transport</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

| DOT (Pictograms) | ![No](image) |

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*Continued on Next Page*
**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations**

TSCA 8(b) inventory: METOL

**California Proposition 65 Warnings**

Other Regulations Not available.

**Other Classifications**

- WHMIS (Canada) CLASS D-2B: Material causing other toxic effects (TOXIC).
- DSCL (EEC) R36- Irritating to eyes.

**HMIS (U.S.A.)**

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>E</td>
</tr>
</tbody>
</table>

**WHMIS (Canada) (Pictograms)**

![Pictogram](attachment:image)

**DSCL (Europe) (Pictograms)**

![Pictogram](attachment:image)

**TDG (Canada) (Pictograms)**

![Pictogram](attachment:image)

**ADR (Europe) (Pictograms)**

![Pictogram](attachment:image)

**Protective Equipment**

- Gloves.
- Lab coat.
- Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Splash goggles.

Continued on Next Page
## Section 16. Other Information

<table>
<thead>
<tr>
<th>Catalog Number(s)</th>
<th>M1290</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Verified by G. A. Binas.  
Printed 2/7/2001.

CALL (310) 516-8000

### Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user’s responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.
**Material Safety Data Sheet**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

**Section 1. Chemical Product and Company Identification**

<table>
<thead>
<tr>
<th>Common Name/ Trade Name</th>
<th>Code</th>
<th>CAS#</th>
<th>RTECS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascorbic acid</td>
<td>A5930</td>
<td>50-81-7</td>
<td>CI7650000</td>
<td>TSCA 8(b) inventory: Ascorbic acid</td>
</tr>
</tbody>
</table>

**Manufacturer**
SPECTRUM QUALITY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

**Commercial Name(s)** Vitamin C

**Synonym** Not available.

**Chemical Name** Not available.

**Chemical Family** Not available.

**Chemical Formula** C₆H₈O₆

**Supplier**
SPECTRUM QUALITY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

**Section 2. Composition and Information on Ingredients**

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Ascorbic acid</td>
<td>50-81-7</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Toxicological Data on Ingredients**

**Ascorbic acid**:

- **ORAL (LD50)**: Acute: 11900 mg/kg [Rat].

**Section 3. Hazards Identification**

**Potential Acute Health Effects**
Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

**Potential Chronic Health Effects**

- **CARCINOGENIC EFFECTS**: Not available.
- **MUTAGENIC EFFECTS**: Not available.
- **TERATOGENIC EFFECTS**: Not available.
- **DEVELOPMENTAL TOXICITY**: Not available.

The substance is toxic to lungs, mucous membranes.
Repeated or prolonged exposure to the substance can produce target organs damage.

Continued on Next Page
### Section 4. First Aid Measures

<table>
<thead>
<tr>
<th>Eye Contact</th>
<th>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 if irritation occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Contact</td>
<td>Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.</td>
</tr>
<tr>
<td>Serious Skin Contact</td>
<td>Not available.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.</td>
</tr>
<tr>
<td>Serious Inhalation</td>
<td>Not available.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.</td>
</tr>
<tr>
<td>Serious Ingestion</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 5. Fire and Explosion Data

<table>
<thead>
<tr>
<th>Flammability of the Product</th>
<th>May be combustible at high temperature.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-Ignition Temperature</td>
<td>660°C (1220°F)</td>
</tr>
<tr>
<td>Flash Points</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Combustion</td>
<td>These products are carbon oxides (CO, CO2).</td>
</tr>
<tr>
<td>Fire Hazards in Presence of Various Substances</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
| Explosion Hazards in Presence of Various Substances | Risks of explosion of the product in presence of mechanical impact: Not available.  
Risks of explosion of the product in presence of static discharge: Not available. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder.  
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.                                                                 |
| Special Remarks on Fire Hazards | Not available.                                                                                                                                 |
| Special Remarks on Explosion Hazards | Not available.                                                                                                                                 |

### Section 6. Accidental Release Measures

<table>
<thead>
<tr>
<th>Small Spill</th>
<th>Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Spill</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Section 7. Handling and Storage

**Precautions**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label.

**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**

Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. 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.

**Exposure Limits**

Not available.

### Section 9. Physical and Chemical Properties

**Physical state and appearance**

Solid.

**Odor**

Not available.

**Molecular Weight**

176.13 g/mole

**Taste**

Not available.

**pH (1% soln/water)**

Not available.

**Color**

Not available.

**Boiling Point**

Decomposition temperature: 192°C (377.6°F)

**Melting Point**

191°C (375.8°F)

**Critical Temperature**

Not available.

**Specific Gravity**

1.65 (Water = 1)

**Vapor Pressure**

Not applicable.

**Vapor Density**

Not available.

**Volatility**

Not available.

**Odor Threshold**

Not available.

**Water/Oil Dist. Coeff.**

Not available.

**Ionicity (in Water)**

Not available.

**Dispersion Properties**

See solubility in water.

**Solubility**

Soluble in cold water.

### Section 10. Stability and Reactivity Data

**Stability**

The product is stable.

**Instability Temperature**

Not available.

**Conditions of Instability**

Not available.

**Incompatibility with various substances**

Not available.

**Corrosivity**

Non-corrosive in presence of glass.

*Continued on Next Page*
**Section 11. Toxicological Information**

**Routes of Entry**
Not available.

**Toxicity to Animals**
Acute oral toxicity (LD50): 11900 mg/kg [Rat].

**Chronic Effects on Humans**
Causes damage to the following organs: lungs, mucous membranes.

**Other Toxic Effects on Humans**
Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals**
Not available.

**Special Remarks on Chronic Effects on Humans**
Not available.

**Special Remarks on other Toxic Effects on Humans**
Not available.

**Section 12. Ecological Information**

**Ecotoxicity**
Not available.

**BOD5 and COD**
Not available.

**Products of Biodegradation**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation**
The products of degradation are more toxic.

**Special Remarks on the Products of Biodegradation**
Not available.

**Section 13. Disposal Considerations**

**Waste Disposal**
Recycle to process, if possible. Consult your local or regional authorities.

**Section 14. Transport Information**

**DOT Classification**
Not a DOT controlled material (United States).

**Identification**
Not applicable.

**Special Provisions for Transport**
Not applicable.

**DOT (Pictograms)**

\[\text{Diagram of no entry symbol}\]
### Section 15. Other Regulatory Information and Pictograms

**Federal and State Regulations**

TSCA 8(b) inventory: Ascorbic acid

**California Proposition 65 Warnings**


**Other Regulations**

<table>
<thead>
<tr>
<th>Other Classifications</th>
<th>WHMIS (Canada)</th>
<th>CLASS D-2A: Material causing other toxic effects (VERY TOXIC).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DSCL (EEC)</td>
<td>This product is not classified according to the EU regulations.</td>
</tr>
</tbody>
</table>

**HMIS (U.S.A.)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>E</td>
</tr>
</tbody>
</table>

**National Fire Protection Association (U.S.A.)**

- **Flammability**: 1
- **Reactivity**: 0
- **Health**: 1
- **Specific hazard**:

**WHMIS (Canada) (Pictograms)**

![T pictogram]

**DSCL (Europe) (Pictograms)**

![No entry pictogram]

**TDG (Canada) (Pictograms)**

![No entry pictogram]

**ADR (Europe) (Pictograms)**

![No entry pictogram]

**Protective Equipment**

- **Gloves**
- **Lab coat**
- **Dust respirator**: Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- **Safety glasses**

*Continued on Next Page*
## Section 16. Other Information

<table>
<thead>
<tr>
<th>Catalog Number(s)</th>
<th>A1370, A1371, AS102, AS105</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.
SODA ASH (SODIUM CARBONATE, ANHYDROUS)

Material Safety Data Sheet  Date Prepared:  5/23/01  Supersedes Date:  1/29/98

1.  CHEMICAL PRODUCT AND COMPANY DESCRIPTION

OCI Chemical Corp.
Two Corporate Drive
Shelton, CT 06484

Emergency Phone Numbers:
FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT
CONTACT: CHEMTREC (800-424-9300) IN THE UNITED STATES OR OCI (1-203-225-3100 or 1-888-278-1657); IN CANADA CONTACT CANUTEC (613) 996-6666.

For Product Information:
(800) 865-1774

Chemical Name or Synonym:
DISODIUM CARBONATE; SODA ASH; CARBONIC ACID, DISODIUM SALT

Molecular Formula:
Na₂CO₃

2.  COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Reg Number</th>
<th>OSHA Hazard</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM CARBONATE</td>
<td>497-19-8</td>
<td>Y</td>
<td>100</td>
</tr>
</tbody>
</table>

3.  HAZARDS IDENTIFICATION

A.  Physical Appearance and Odor:
White granules solid, odorless

Warning Statements:
WARNING: CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION

B.  POTENTIAL HEALTH EFFECTS

End of Page 1  Continued on Next Page
3. **HAZARDS IDENTIFICATION (Continued)**

**Acute Eye:**
Causes irritation.

**Acute Skin:**
May cause redness, swelling.

**Acute Inhalation:**
May cause upper respiratory tract irritation, lung irritation.

**Acute Ingestion:**
Low acute oral toxicity. May cause nausea, vomiting, diarrhea, irritation, corrosion.

**Chronic Effects:**
This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

4. **FIRST AID MEASURES**

**FIRST AID MEASURES FOR ACCIDENTAL:**

**Eye Exposure:**
Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention.

**Skin Exposure:**
In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

**Inhalation:**
Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek immediate medical attention.
SODA ASH (SODIUM CARBONATE, ANHYDROUS)

Material Safety Data Sheet Date Prepared: 5/23/01 Supersedes Date: 1/29/98

4. FIRST AID MEASURES  (Continued)

Ingestion:
If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:
Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

NOTES TO PHYSICIAN:
All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

Flash Point:
Not Applicable

Extinguishing Media:
Not combustible. Use extinguishing method suitable for surrounding fire

Special Fire Fighting Procedures:
Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards:
Not combustible.

Hazardous Decomposition Materials (Under Fire Conditions)
Carbon dioxide

End of Page 3

OCI CHEMICAL CORP.
6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:
Ventilate closed spaces before entering. Wear appropriate protective gear for situation. See Personal Protection information in Section 8.

Containment of Spill:
Follow procedure described below under Cleanup and Disposal of Spill.

Cleanup and Disposal of Spill:
Scrape up and place in appropriate closed container (see Section 7: Handling and Storage). Collect washings for disposal. Decontaminate tools and equipment following cleanup. Clean up residual material by washing area with water. Avoid creation of dusty conditions.

Environmental and Regulatory Reporting:
Do not flush to drain. If spilled on the ground, the affected area should be scraped clean placed in an appropriate container for disposal. Prevent material form entering public sewer system or any waterways. Large spills should be handled according to a predetermined plan. For assistance in developing a plan contact with the Technical Service Department using the Product Information phone number in Section 1.

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures:
Not Available

Handling
Do not get in eyes. Do not breathe dusts. Avoid direct or prolonged contact with skin.

Storage
Store in an area that is cool, dry, well-ventilated
8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Introductory Remarks:**
These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

**Exposure Guidelines:**
Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting OSHA requirements. The following limits (AGGHI, OSHA and other) apply to this material, where, if indicated, S=skin and C=ceiling limit:

<table>
<thead>
<tr>
<th>PARTICULATES NOT OTHERWISE REGULATED RESPIRABLE FRACTION</th>
<th>Notes</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td></td>
<td>5 mg / cu m</td>
<td></td>
</tr>
</tbody>
</table>

**Engineering Controls:**
Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures.

**Respiratory Protection:**
When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the latest OSHA standard (29 CFR 1910.134) and/or ANSI Z88.2 recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by OSHA / ANSI: Air-purifying (half-mask / full-face) respirator with cartridges / canister approved for use against dusts, mists and fumes.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION  (Continued)

Eye / Face Protection:
Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

Skin Protection:
Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e., shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:
Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
3) Wash exposed skin promptly to remove accidental splashes of contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

Physical Appearance:
White granules solid.

Odor:
Odorless
SODA ASH (SODIUM CARBONATE, ANHYDROUS)

Material Safety Data Sheet  Date Prepared:  5/23/01  Supersedes Date:  1/29/98

9. PHYSICAL AND CHEMICAL PROPERTIES (Continued)

pH:
11.3 at 1 wt / wt %

Specific Gravity:
2.53 at 20°C (68 F)

Water Solubility:
Soluble
7 Wt / Wt % at 25°C (77 F)

Melting Point Range:
851°C (1564 F)

Boiling Point Range:
Not Available

Vapor Density:
Not Available

Molecular Weight:
105.99

10. STABILITY AND REACTIVITY

Chemical Stability:
This material is stable under normal handling and storage conditions described in Section 7.

Conditions To Be Avoided:
Extreme Heat

Materials / Chemicals To Be Avoided:
Aluminum
Fluorine
Humid Air
Moisture
Sulfuric Acid
Acids
Magnesium
Phosphorus Pentoxide
10. **STABILITY AND REACTIVITY (Continued)**

**Decomposition Temperature Range:**
400°C (752 F)

The Following Hazardous Decomposition Products Might Be Expected:

**Decomposition Type:** Thermal
Carbon Dioxide

**Hazardous Polymerization Will Not Occur.**
Avoid The Following To Inhibit Hazardous Polymerization:
Not Applicable

11. **TOXICOLOGICAL INFORMATION**

**Acute Eye Irritation:**

**Toxicological Information and Interpretation**
Eye - Eye Irritation, 50 mg, Rabbit.
Severely Irritating.

**Acute Skin Irritation:**

**Toxicological Information and Interpretation**
Skin - Skin Irritation, Rabbit.
Mildly Irritating.

**Acute Dermal Toxicity:**
No Test Data Found For Product.

**Acute Respiratory Irritation:**
No Test Data Found For Product.

**Acute Inhalation Toxicity:**

**Toxicological Information and Interpretation**
LC50 - Lethal Concentration. 50% Of Test Species, 2300 mg/cu m/2hr, rat.

**Acute Oral Toxicity:**

**Toxicological Information and Interpretation**
LD50 - Lethal Dose 50% Of Test Species, 4090 mg/kg, rat.
11. **TOXICOLOGICAL INFORMATION (Continued)**

**Chronic Toxicity:**
This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be “probable” or “suspected” human carcinogens.

*No additional test data found for product.*

12. **ECOLOGICAL INFORMATION**

**Ecotoxicological Information:**
No data found for product.

**Chemical Fate Information:**
No data found for product.

13. **DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:**
Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

**Container Handling and Disposal:**
Rinse containers before disposal.

EPA Hazardous Waste - NO

14. **TRANSPORTATION INFORMATION**

**Transportation Status:**
US Department of Transportation

**DOT Shipping Name:**
NOT REGULATED
15. REGULATORY INFORMATION

FEDERAL REGULATIONS

TSCA Inventory Status:
All ingredients of this product are listed on the TSCA Inventory.

SARA Title III Hazard Classes:
- Fire Hazard: NO
- Reactive Hazard: NO
- Release of Pressure: NO
- Acute Health Hazard: YES
- Chronic Health Hazard: NO

STATE REGULATIONS:
This product does not contain any components that are regulated under California Proposition 65.

16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings - NFPA(R):
- 2 Health Hazard Rating - Moderate
- 0 Flammability Rating - Minimal
- 0 Reactivity Rating - Minimal

National Paint & Coating Hazardous Materials Identification System - HMIS(R):
- 2 Health Hazard Rating - Moderate
- 0 Flammability Rating - Minimal
- 0 Reactivity Rating - Minimal

Certified to ANSI/NSF 60 – Soda Ash Dense Bulk: This product is certified ANSI/NSF 60 when used in treatment of drinking water at maximum dosage of 100 mg/L.

Reason for Revisions:
Change and / or addition made to Section 1.
16. OTHER INFORMATION (Continued)

Key Legend Information:
- NAV - Not Available
- NAP - Not Applicable
- ND - Not Determined
- ACGIH - American Conference of Governmental Industrial Hygienists
- OSHA - Occupational Safety and Health Administration
- TLV - Threshold Limit Value
- PEL - Permissible Exposure Limit
- TWA - Time Weighted Average
- STEL - Short Term Exposure Limit
- NTP - National Toxicology Program
- IARC - International Agency for Research on Cancer

Disclaimer:
The information herein is given in good faith but no warranty, expressed or implied, is made
Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Common Name/ Trade Name</th>
<th>Sodium hydroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
<tr>
<td>Commercial Name(s)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Synonym</td>
<td>Not available.</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Sodium Hydroxide</td>
</tr>
<tr>
<td>Chemical Family</td>
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</tr>
<tr>
<td>Chemical Formula</td>
<td>NaOH</td>
</tr>
<tr>
<td>Supplier</td>
<td>SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
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</tbody>
</table>

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td></td>
<td>2</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients

LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects
Extremely hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion. Very hazardous in case of inhalation. Slightly hazardous in case of skin contact (permeator). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Sodium hydroxide

Potential Chronic Health Effects:
- CARCINOGENIC EFFECTS: Not available.
- MUTAGENIC EFFECTS: Not available.
- TERATOGENIC EFFECTS: Not available.
- DEVELOPMENTAL TOXICITY: Not available.

The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Section 4. First Aid Measures

**Eye Contact**
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

**Skin Contact**
If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**Serious Skin Contact**
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation**
Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**Serious Inhalation**
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion**
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion**
Not available.

Section 5. Fire and Explosion Data

**Flammability of the Product**
Non-flammable.

**Auto-Ignition Temperature**
Not applicable.

**Flash Points**
Not applicable.

**Flammable Limits**
Not applicable.

**Products of Combustion**
Not available.

**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 mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions**
Not applicable.

**Special Remarks on Fire Hazards**
Not available.

**Special Remarks on Explosion Hazards**
Not available.

Continued on Next Page
Section 6. Accidental Release Measures

Small Spill
Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: **Neutralize the residue with a dilute solution of acetic acid.**

Large Spill
Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of acetic acid.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions
Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as moisture.

Storage
Corrosive materials should be stored in a separate safety storage cabinet or room.

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
Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Vapor and 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.

Exposure Limits
CEIL: 2 (mg/m³) from ACGIH [1995]
Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance
Solid.

Molecular Weight
40 g/mole

pH (1% soln/water)
14 [Basic.]

Boiling Point
1390°C (2534°F)

Melting Point
318.4°C (605.1°F)

Critical Temperature
Not available.

Specific Gravity
2.13 (Water = 1)

Vapor Pressure
Not applicable.

Vapor Density
Not available.

Volatility
Not available.

Odor Threshold
Not available.

Water/Oil Dist. Coeff.
Not available.

Ionicity (in Water)
Not available.

Dispersion Properties
See solubility in water.

Solubility
Easily soluble in cold water.

Continued on Next Page
## Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Not available.</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Highly reactive with moisture.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Slightly corrosive to corrosive in presence of glass.</td>
</tr>
<tr>
<td>Special Remarks on Reactivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Special Remarks on Corrosivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>No.</td>
</tr>
</tbody>
</table>

## Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Eye contact. Inhalation. Ingestion.</th>
</tr>
</thead>
</table>
| Toxicity to Animals | LD50: Not available.  
LC50: Not available. |
| Chronic Effects on Humans | The substance is toxic to lungs, mucous membranes. |
| Other Toxic Effects on Humans | Extremely hazardous in case of skin contact (corrosive, irritant), of ingestion.  
Very hazardous in case of inhalation.  
Slightly hazardous in case of skin contact (permeator). |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | Not available. |
| Special Remarks on other Toxic Effects on Humans | Not available. |

## Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BOD5 and COD</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Biodegradation</td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td>Toxicity of the Products of Biodegradation</td>
<td>The products of degradation are as toxic as the original product.</td>
</tr>
<tr>
<td>Special Remarks on the Products of Biodegradation</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
## Sodium hydroxide

### Section 13. Disposal Considerations

**Waste Disposal**
Recycle to process, if possible. Consult your local or regional authorities.

### Section 14. Transport Information

**DOT Classification**
CLASS 8: Corrosive solid.

**Identification**
: Sodium hydroxide, solid : UN1823  PG: II

**Special Provisions for Transport**
Not available.

**DOT (Pictograms)**

### Section 15. Other Regulatory Information and Pictograms

**Federal and State Regulations**
Pennsylvania RTK: Sodium hydroxide
Massachusetts RTK: Sodium hydroxide
TSCA 8(b) inventory: Sodium hydroxide

**California Proposition 65 Warnings**

**Other Regulations**

**Other Classifications**

- **WHMIS (Canada)**
  CLASS E: Corrosive solid.

- **DSCL (EEC)**
  R35- Causes severe burns.

**HMIS (U.S.A.)**

- Health Hazard: 3
- Fire Hazard: 0
- Reactivity: 2
- Personal Protection: 

**National Fire Protection Association (U.S.A.)**

- Flammability: 0
- Reactivity: 1
- Specific hazard: 

**WHMIS (Canada) (Pictograms)**

**DSCL (Europe) (Pictograms)**

**TDG (Canada) (Pictograms)**

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*Continued on Next Page*
Protective Equipment

- Gloves.
- Synthetic apron.
- Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Splash goggles.

Section 16. Other Information

<table>
<thead>
<tr>
<th>Catalog Number(s)</th>
<th>S1295, S1300, S1301, S1302, S1303, S1305, S1308, S0170</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special</td>
<td>Not available.</td>
</tr>
<tr>
<td>Considerations</td>
<td></td>
</tr>
</tbody>
</table>

Verified by G. A. Binas.  

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.
**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

MSDS Name: Sodium Bisulfate, Tech., Granular  
Catalog Numbers:  
AC214850010, AC214850250  
Synonyms:  
Sodium Hydrogen Sulfate; Sodium Bisulfate; Sulfuric Acid, Monosodium Salt.

Company Identification (Europe): Acros Organics BVBA  
Janssen Pharmaceuticalaan 3a  
2440 Geel, Belgium

Company Identification (USA): Acros Organics  
One Reagent Lane  
Fairlawn, NJ  07410

For information in North America, call: 800-ACROS-01  
For information in Europe, call: 0032(0) 14575211  
For emergencies in the US, call CHEMTREC: 800-424-9300  
For emergencies in Europe, call: 0032(0) 14575299

**SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7681-38-1</td>
<td>Sodium Bisulfate</td>
<td>ca 100</td>
</tr>
</tbody>
</table>

Hazard Symbols: C  
Risk Phrases: 34

**SECTION 3 - HAZARDS IDENTIFICATION**

EMERGENCY OVERVIEW


Potential Health Effects

Eye:
Causes eye burns. When substance becomes wet or comes in contact with moisture of the mucous membranes, it will cause irritation. May cause chemical conjunctivitis and corneal damage.

Skin:
Causes skin burns. Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.
Ingestion:  
May cause severe and permanent damage to the digestive tract.

Causes  
gastrointestinal tract burns. May cause perforation of the digestive tract. May cause systemic effects.

Inhalation:  
May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema.

Causes  
chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects.

Chronic:  
Effects may be delayed.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:  
Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin:  
Get medical aid immediately. Wash clothing before reuse.

Destroy contaminated shoes. If water-reactive products are embedded in the skin, no water should be applied. The embedded products should be covered with a light oil.

Ingestion:  
Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:  
Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:  
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water
Reactive. Material will react with water and may release a flammable and/or toxic gas. May ignite or explode on contact with steam or moist air.

Extinguishing Media:
Use dry sand or earth to smother fire. DO NOT USE WATER!

Contact professional fire-fighters immediately.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Avoid runoff into storm sewers and ditches which lead to waterways.
Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation. Do not expose spill to water.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
Wash thoroughly after handling. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

Storage:
Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or
chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to minimize contact with skin.

Respirators:
Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Solid
Appearance: white
Odor: None reported.
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 315 deg C
Autoignition Temperature: Not available.
Flash Point: Not available.
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature: Not available.
Solubility: Soluble in water.
Specific Gravity/Density: Not available.
Molecular Formula: NaHSO4
Molecular Weight: 120.0544

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable under normal temperatures and pressures. Combines vigorously or explosively with water.

Conditions to Avoid:
Incompatible materials, dust generation, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials:
Strong bases, strong oxidizing agents, strong reducing agents.
Hazardous Decomposition Products:
Oxides of sulfur, irritating and toxic fumes and gases.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
    CAS# 7681-38-1: VZ1860000
LD50/LC50:
    Not available.
Carcinogenicity:
    Sodium Bisulfate - 
    Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
    No information available.
Teratogenicity:
    No information available.
Reproductive Effects:
    No information available.
Neurotoxicity:
    No information available.
Mutagenicity:
    Mutagenic effects have occurred in experimental animals.
Other Studies:
    See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
    Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (SODIUM BISULFATE)
    Hazard Class: 8
    UN Number: UN3260
    Packing Group: II
Canadian TDG
    Shipping Name: CORROSIVE SOLID NOS (SODIUM BISULFATE)
    Hazard Class: 8(9.2)
    UN Number: UN1759

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
    CAS# 7681-38-1 is listed on the TSCA inventory.
    This material does not contain any Class 2 Ozone depleters.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
Sodium Bisulfate can be found on the following state right to know lists: New Jersey.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: C
Risk Phrases:
R 34 Causes burns.
Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28 After contact with skin, wash immediately with...

WGK (Water Danger/Protection)
CAS# 7681-38-1: 1

United Kingdom Occupational Exposure Limits

Canada
CAS# 7681-38-1 is listed on Canada's DSL List.
CAS# 7681-38-1 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 4/02/1997 Revision #3 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or
exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

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1. Product Identification

**Synonyms:** Bromide salt of potassium  
**CAS No.:** 7758-02-3  
**Molecular Weight:** 119.00  
**Chemical Formula:** KBr  
**Product Codes:**  
J.T. Baker: 2961, 2998  
Mallinckrodt: 0500, 0505

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3. Hazards Identification

**Emergency Overview**

WARNING! HARMFUL IF SWALLOWED OR INHALED. AFFECTS CENTRAL NERVOUS SYSTEM, BRAIN AND EYES. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**J.T. Baker SAF-T-DATA**(tm) Ratings (Provided here for your convenience)
Potential Health Effects

Inhalation:
Dust may cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, and shortness of breath.

Ingestion:
May cause nausea, vomiting and abdominal pain. Ingestions are usually promptly rejected by vomiting, but sufficient absorption may occur to produce central nervous system, eye and brain effects. Symptoms may include skin rash, blurred vision and other eye effects, drowsiness, irritability, dizziness, mania, hallucinations, and coma.

Skin Contact:
Dry material may cause mild irritation. Solutions may cause irritation, redness, pain, and skin burns.

Eye Contact:
May cause irritation, redness and pain.

Chronic Exposure:
Repeated or prolonged exposure by any route may cause skin rashes (bromaderma). Repeated ingestion of small amounts may cause central nervous system depression, including depression, ataxia, psychoses, memory loss, irritability, and headache.

Aggravation of Pre-existing Conditions:
Persons suffering from debilitation, depression, alcoholism, neurological or psychological disorders may be more susceptible to the effects of this compound.

4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

Eye Contact:
Wash eyes with plenty of water for at least 15 minutes. Call a physician.

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.
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. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage
Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Separate from incompatibilities. 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):
For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. 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-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection:
Wear protective gloves and clean body-covering clothing.
Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.
9. Physical and Chemical Properties

Appearance:  
White crystals.

Odor:  
Odorless.

Solubility:  
70g/100g water @ 25C (77F).

Specific Gravity:  
2.75 @ 25C

pH:  
Aqueous solution is neutral.

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

Boiling Point:  
1435C (2615F)

Melting Point:  
730C (1346F)

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

Vapor Pressure (mm Hg):  
No information found.

Evaporation Rate (BuAc=1):  
No information found.

10. Stability and Reactivity

Stability:  
Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:  
Oxides of the contained metal and halogen, possibly also free, or ionic halogen.

Hazardous Polymerization:  
Will not occur.

Incompatibilities:  
For Potassium Bromide: Strong oxidizers, acids, and bromine trifluoride.

Conditions to Avoid:  
Incompatibles.

11. Toxicological Information

Potassium bromide: oral rat LD50: 3070 mg/kg; investigated as a mutagen.

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12. Ecological Information

**Environmental Fate:**
No information found.

**Environmental Toxicity:**
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. 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

Not regulated.

15. Regulatory Information

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<th>EC</th>
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</table>

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

Australian Hazchem Code: No information found.
Poison Schedule: No information found.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0
Label Hazard Warning:
WARNING! HARMFUL IF SWALLOWED OR INHALED. AFFECTS CENTRAL NERVOUS SYSTEM, BRAIN AND EYES. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.
Label Precautions:
Avoid breathing dust.
Keep container closed.
Use with adequate ventilation.
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.
Label First Aid:
If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 15.
Disclaimer:
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