



# Material Safety Data Sheet

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">2</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	<b>METOL</b>	<b>Code</b> M4060
<b>Manufacturer</b>	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> 55-55-0
<b>Commercial Name(s)</b>	Pictol	<b>RTECS</b> SL8650000
<b>Synonym</b>	Methyl-p-aminophenol Sulfate	<b>TSCA</b> TSCA 8(b) inventory: METOL
<b>Chemical Name</b>		<b>CI#</b> Not available.
<b>Chemical Family</b>	Not available.	<b>IN CASE OF EMERGENCY</b> <a href="tel:800-424-9300">CHEMTREC (24hr) 800-424-9300</a>  CALL (310) 516-8000
<b>Chemical Formula</b>	C14H20N2O6S	
<b>Supplier</b>	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) METOL	55-55-0				100
<b>Toxicological Data on Ingredients</b>					
	<b>METOL</b>	LD50: Not available. LC50: Not available.			

Section 3. Hazards Identification	
<b>Potential Acute Health Effects</b>	Hazardous in case of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (irritant), of inhalation.
<b>Potential Chronic Health Effects</b>	Hazardous in case of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (irritant), of inhalation. <b>CARCINOGENIC EFFECTS:</b> Not available. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITY:</b> Not available.

**Section 4. First Aid Measures**

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Serious Skin Contact</b>	Not available.
<b>Inhalation</b>	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	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.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-Ignition Temperature</b>	532°C (989.6°F)
<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ...).
<b>Fire Hazards in Presence of Various Substances</b>	Not available.
<b>Explosion Hazards in Presence of Various Substances</b>	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.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	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.
<b>Large Spill</b>	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.

**Section 7. Handling and Storage**

<b>Precautions</b>	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.
<b>Storage</b>	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**

<b>Engineering Controls</b>	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.
<b>Personal Protection</b>	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	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.
<b>Exposure Limits</b>	Not available.

**Section 9. Physical and Chemical Properties**

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

**Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with various substances</b>	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

Routes of Entry	Eye contact. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Other Toxic Effects on Humans	Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), 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.
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### Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

**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.)**

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

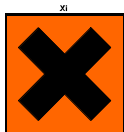
**National Fire Protection Association (U.S.A.)**



**WHMIS (Canada) (Pictograms)**



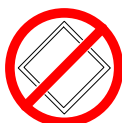
**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**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.

**Section 16. Other Information****Catalog Number(s)** M1290**References** Not available.**Other Special Considerations** Not available.

Validated by G. A. Binas on 2/17/2000.

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

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> </table>	Health Hazard	1	Fire Hazard	1	Reactivity	0	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	1							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	Ascorbic acid	<b>Code</b> A5930
<b>Manufacturer</b>	SPECTRUM QUALITY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> 50-81-7
<b>Commercial Name(s)</b>	Vitamin C	<b>RTECS</b> CI7650000
<b>Synonym</b>	Not available.	<b>TSCA</b> TSCA 8(b) inventory: Ascorbic acid
<b>Chemical Name</b>		<b>CI#</b> Not available.
<b>Chemical Family</b>	Not available.	<b>IN CASE OF EMERGENCY</b> <b>CHEMTREC (24hr) 800-424-9300</b>  CALL (310) 516-8000
<b>Chemical Formula</b>	C6H8O6	
<b>Supplier</b>	SPECTRUM QUALITY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) Ascorbic acid	50-81-7				100
<b>Toxicological Data on Ingredients</b>		<b>Ascorbic acid:</b> ORAL (LD50): Acute: 11900 mg/kg [Rat].			

Section 3. Hazards Identification	
<b>Potential Acute Health Effects</b>	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
<b>Potential Chronic Health Effects</b>	<b>CARCINOGENIC EFFECTS:</b> Not available. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITY:</b> Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

**Section 4. First Aid Measures**

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
<b>Serious Skin Contact</b>	Not available.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	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.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-Ignition Temperature</b>	660°C (1220°F)
<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ).
<b>Fire Hazards in Presence of Various Substances</b>	Not available.
<b>Explosion Hazards in Presence of Various Substances</b>	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.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	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.
<b>Large Spill</b>	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.



**Section 7. Handling and Storage**

<b>Precautions</b>	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.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

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

<b>Engineering Controls</b>	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.
<b>Personal Protection</b>	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	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.
<b>Exposure Limits</b>	Not available.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Solid.	<b>Odor</b>	Not available.
<b>Molecular Weight</b>	176.13 g/mole	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	Not available.	<b>Color</b>	Not available.
<b>Boiling Point</b>	Decomposition temperature: 192°C (377.6°F)		
<b>Melting Point</b>	191°C (375.8°F)		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	1.65 (Water = 1)		
<b>Vapor Pressure</b>	Not applicable.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	Not available.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water.		
<b>Solubility</b>	Soluble in cold water.		

**Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with various substances</b>	Not available.
<b>Corrosivity</b>	Non-corrosive in presence of glass.

Continued on Next Page

**Special Remarks on Reactivity** Not available.

**Special Remarks on Corrosivity** Not available.

**Polymerization** Will not occur.

**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)**



**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations**

TSCA 8(b) inventory: Ascorbic acid

**California Proposition 65 Warnings**

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications**

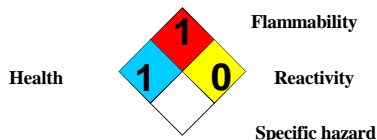
**WHMIS (Canada)** CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC)** This product is not classified according to the EU regulations.

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

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	E

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



**WHMIS (Canada) (Pictograms)**



**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**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.

**Section 16. Other Information****Catalog Number(s)** A1370, A1371, AS102, AS105**References** Not available.**Other Special Considerations** Not available.

Validated by G. A. Binas on 3/30/2000.

Verified by G. A. Binas.

Printed 2/7/2001.

CALL (310) 516-8000

**Notice to Reader**

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## SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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

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### 1. CHEMICAL PRODUCT AND COMPANY DESCRIPTION

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**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:**

Na<sub>2</sub>CO<sub>3</sub>

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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Component	CAS Reg Number	OSHA Hazard	Percentage
SODIUM CARBONATE	497-19-8	Y	100

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### 3. HAZARDS IDENTIFICATION

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**A. Physical Appearance and Odor:**

White granules solid, odorless

**Warning Statements:**

**WARNING: CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION**

**B. POTENTIAL HEALTH EFFECTS**

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# SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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

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## 3. HAZARDS IDENTIFICATION (Continued)

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### 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.

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## 4. FIRST AID MEASURES

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### 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

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### 4. *FIRST AID MEASURES (Continued)*

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#### **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.

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### 5. *FIRE FIGHTING MEASURES*

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#### **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

## SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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

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### 6. ACCIDENTAL RELEASE MEASURES

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#### **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 from 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.

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### 7. HANDLING AND STORAGE

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#### **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



# SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 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 (AGGIH, OSHA and other) apply to this material, where, if indicated, S=skin and C=ceiling limit:

### PARTICULATES NOT OTHERWISE REGULATED RESPIRABLE FRACTION

	Notes	TWA	STEL
OSHA		5 mg / cu m	

### 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.

## SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

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#### **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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

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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)

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### 9.    *PHYSICAL AND CHEMICAL PROPERTIES ( Continued )*

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**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

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### 10.    *STABILITY AND REACTIVITY*

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**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

*End of Page 7*

*Continued on Next Page*

# SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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## 10. STABILITY AND REACTIVITY ( Continued )

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### 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

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## 11. TOXICOLOGICAL INFORMATION

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### 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.

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Continued on Next Page

## SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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### 11. TOXICOLOGICAL INFORMATION ( Continued )

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**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.*

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### 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:**

No data found for product.

**Chemical Fate Information:**

No data found for product.

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### 13. DISPOSAL CONSIDERATIONS

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**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

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### 14. TRANSPORTATION INFORMATION

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**Transportation Status:**

US Department of Transportation

**DOT Shipping Name:**

NOT REGULATED

*End of Page 9*

*Continued on Next Page*

# SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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## 15. REGULATORY INFORMATION

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### 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.

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## 16. OTHER INFORMATION

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#### 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.

## SODA ASH (SODIUM CARBONATE, ANHYDROUS)

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### 16. OTHER INFORMATION ( Continued )

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#### 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.

# Material Safety Data Sheet

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">3</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; font-weight: bold;">2</td> </tr> </table>	Health Hazard	3	Fire Hazard	0	Reactivity	2	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	3							
Fire Hazard	0							
Reactivity	2							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	<b>Sodium hydroxide</b>	<b>Code</b> S4100
<b>Manufacturer</b>	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> 1310-73-2
<b>Commercial Name(s)</b>	Not available.	<b>RTECS</b> WB4900000
<b>Synonym</b>	Not available.	<b>TSCA</b> TSCA 8(b) inventory: Sodium hydroxide
<b>Chemical Name</b>	Sodium Hydroxide	<b>CI#</b> Not available.
<b>Chemical Family</b>	Not available.	<b>IN CASE OF EMERGENCY</b> <a href="tel:800-424-9300">CHEMTREC (24hr) 800-424-9300</a>  CALL (310) 516-8000
<b>Chemical Formula</b>	NaOH	
<b>Supplier</b>	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) Sodium hydroxide	1310-73-2			2	100
<b>Toxicological Data on Ingredients</b>	<b>Sodium hydroxide</b> LD50: Not available. LC50: Not available.				

Section 3. Hazards Identification	
<b>Potential Acute Health Effects</b>	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.

**Continued on Next Page**



<b>Potential Chronic Health Effects</b>	<p><b>CARCINOGENIC EFFECTS:</b> Not available.  <b>MUTAGENIC EFFECTS:</b> Not available.  <b>TERATOGENIC EFFECTS:</b> Not available.  <b>DEVELOPMENTAL TOXICITY:</b> Not available.</p> <p>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.</p>
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#### Section 4. First Aid Measures

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Serious Skin Contact</b>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
<b>Inhalation</b>	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
<b>Serious Inhalation</b>	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. <b>WARNING:</b> 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.
<b>Ingestion</b>	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.
<b>Serious Ingestion</b>	Not available.

#### Section 5. Fire and Explosion Data

<b>Flammability of the Product</b>	Non-flammable.
<b>Auto-Ignition Temperature</b>	Not applicable.
<b>Flash Points</b>	Not applicable.
<b>Flammable Limits</b>	Not applicable.
<b>Products of Combustion</b>	Not available.
<b>Fire Hazards in Presence of Various Substances</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances</b>	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.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

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

<b>Precautions</b>	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.
<b>Storage</b>	Corrosive materials should be stored in a separate safety storage cabinet or room.

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

<b>Engineering Controls</b>	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.
<b>Personal Protection</b>	Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	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.
<b>Exposure Limits</b>	CEIL: 2 (mg/m <sup>3</sup> ) from ACGIH [1995]  Consult local authorities for acceptable exposure limits.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Solid.	<b>Odor</b>	Not available.
<b>Molecular Weight</b>	40 g/mole	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	14 [Basic.]	<b>Color</b>	Not available.
<b>Boiling Point</b>	1390°C (2534°F)		
<b>Melting Point</b>	318.4°C (605.1°F)		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	2.13 (Water = 1)		
<b>Vapor Pressure</b>	Not applicable.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	Not available.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water.		
<b>Solubility</b>	Easily soluble in cold water.		

Continued on Next Page

**Section 10. Stability and Reactivity Data**

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

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Eye contact. Inhalation. Ingestion.
<b>Toxicity to Animals</b>	LD50: Not available. LC50: Not available.
<b>Chronic Effects on Humans</b>	The substance is toxic to lungs, mucous membranes.
<b>Other Toxic Effects on Humans</b>	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).
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	Not available.
<b>Special Remarks on other Toxic Effects on Humans</b>	Not available.

**Section 12. Ecological Information**

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	The products of degradation are as toxic as the original product.
<b>Special Remarks on the Products of Biodegradation</b>	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** 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** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

<b>Other Classifications</b>	<b>WHMIS (Canada)</b> CLASS E: Corrosive solid.
	<b>DSCL (EEC)</b> R35- Causes severe burns.

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

Health Hazard	3
Fire Hazard	0
Reactivity	2
Personal Protection	j

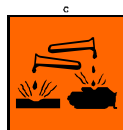
**National Fire Protection Association (U.S.A.)**

Health		Flammability
		Reactivity
		Specific hazard

**WHMIS (Canada) (Pictograms)**



**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



ADR (Europe)  
(Pictograms)

## 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

**Catalog Number(s)** S1295, S1300, S1301, S1302, S1303, S1305, S1308, SO170

**References** Not available.

**Other Special Considerations** Not available.

Validated by G. A. Binas on 2/17/2000.

Verified by G. A. Binas.

Printed 2/8/2001.

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.

\*\*\*\* 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 Pharmaceuticaaan 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 \*\*\*\*

CAS#	Chemical Name	%
7681-38-1 231-665-7	Sodium Bisulfate	ca 100

Hazard Symbols: C

Risk Phrases: 34

\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

EMERGENCY OVERVIEW

Causes burns. Corrosive. Water-Reactive.

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.

Keep from contact with moist air and steam.

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  
face  
European  
Standard EN166.  
Skin:  
skin  
Clothing:  
Respirators:  
29CFR  
a  
respirator

safety goggles as described by OSHA's eye and protection regulations in 29 CFR 1910.133 or Standard EN166.  
Wear appropriate protective gloves to prevent exposure.  
Wear appropriate protective clothing to minimize contact with skin.  
Follow the OSHA respirator regulations found in 1910.134 or European Standard EN 149. Always use NIOSH or European Standard EN 149 approved 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:  
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:  
to 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 depletors.

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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# POTASSIUM BROMIDE

MSDS Number: P5587 --- Effective Date: 06/06/01

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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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Ingredient	CAS No	Percent	Hazardous
-----	-----	-----	-----
Potassium Bromide	7758-02-3	100%	Yes

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## 3. Hazards Identification

### Emergency Overview

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**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<sup>(tm)</sup> Ratings (Provided here for your convenience)**

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Health Rating: 1 - Slight  
Flammability Rating: 0 - None  
Reactivity Rating: 0 - None  
Contact Rating: 1 - Slight  
Lab Protective Equip: GOGGLES; LAB COAT  
Storage Color Code: Orange (General Storage)

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### **Potential Health Effects**

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#### **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.

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## **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.

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## 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.

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## 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.

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## 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.

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## 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.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
-----	-----	-----	-----





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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