MATERIAL SAFETY DATA SHEET

Sodium Metabisulphite

Section 01 - Chemical And Product And Company Information

Product Identifier …………………… Sodium Metabisulphite

Product Use ……………………… Antioxidant. Bleaching and disinfectant agent in textile, laundering, paper, and fermentation industries.

Supplier Name…………………… ClearTech Industries Inc.
2303 Hanselman Avenue
Saskatoon SK S7L 5Z3
Canada

Prepared By…………………….. ClearTech Industries Inc. Technical Department
Phone: (306)664-2522

Preparation Date…………………... August 12, 2002

24-Hour Emergency Phone………. 306-664-2522

Section 02 - Composition / Information on Ingredients

Hazardous Ingredients……………… Sodium metabisulphite 100%

CAS Number…………………….. Sodium metabisulphite 7681-57-4

Synonym (s)………………………. Sodium metabisulfite, Anhydrous sodium bisulfite, ABS, Pyrosulfite

Section 03 - Hazard Identification

Inhalation………………………… Contact with acids, water and/or ice, releases sulphur dioxide gas which may be harmful or deadly if inhaled. May cause severe or deadly allergic reactions in some asthmatics and sulphite sensitive individuals. Inhalation of dust or mist can irritate the respiratory tract. Possible signs and symptoms of allergic reaction include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure, and anaphylaxis
Skin Contact / Absorption: Repeat or prolonged contact with dust may cause irritation. Contact with solution will irritate.

Eye Contact: Dust or mist may irritate or burn eyes. Solutions will irritate or burn eyes.

Ingestion: May irritate gastrointestinal tract. Very large doses cause death, violent colic, diarrhea, and depression. May cause severe or deadly allergic reaction in some asthmatics and sulphite-sensitive individuals.

Exposure Limits: TWA EV = 5 mg/m³

Section 04 - First Aid Measures

Inhalation: Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact / Absorption: Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact: Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

Ingestion: Give large amounts of water and induce vomiting. Do not give anything by mouth to an unconscious person or convulsing person. Seek immediate medical attention.

Additional Information:

Section 05 - Fire Fighting

Conditions of Flammability: Non-flammable

Means of Extinction: Product does not burn. When fire is involved, use any fire-fighting agent appropriate for surrounding material; use water spray to cool fire-exposed surfaces.

Flash Point: Not applicable.

Auto-ignition Temperature: Not applicable.

Upper Flammable Limit: Not applicable.
Lower Flammable Limit... Not applicable.

Hazardous Combustible Products. When decomposed, sodium sulphide residue is produced, which is a dangerous fire risk, a strong irritant to skin and tissue and incompatible with acids.

Special Fire Fighting Procedures... Wear NIOSH-approved self-contained breathing Apparatus and protective clothing.

Explosion Hazards... Data not available.

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**Section 06 - Accidental Release Measures**

Leak / Spill... Promptly sweep or shovel up with a minimum of dusting and place in empty closed containers. Cautiously spray residue with plenty of water. Provide ventilation to clear sulphur dioxide fumes, which will be generated as a result of water contact.

Deactivating Materials... Dilute hydrogen peroxide

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**Section 07 - Handling and Storage**

Handling Procedures... Use sensible industrial hygiene and housekeeping practises. Avoid dust formations. Wash thoroughly after handling. Avoid situations that could lead to harmful exposure.

Storage Requirements... Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials.

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**Section 08 - Personal Protection and Exposure Controls**

Protective Equipment

**Eyes**... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

**Respiratory**... Respiratory protection is not normally required. If use creates vapours, mists, or aerosols, then a NIOSH-approved respirator with a dust/mist cartridge is recommended.

**Gloves**... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.
**Clothing**

Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.

**Footwear**

Impervious boots of chemically resistant material should be worn at all times

**Other**

No other information available

**Engineering Controls**

**Ventilation Requirements**

Local mechanical exhaust ventilation is normally required. Because of potential SO2 generation, installation of continuous monitoring, detection, and alarm systems is recommended.

**Other**

Emergency shower and eyewash should be in close proximity.

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### Section 09 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor and Appearance</td>
<td>White solid. Pungent sulphur dioxide odor.</td>
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<tr>
<td>Odor Threshold</td>
<td>Data not available</td>
</tr>
<tr>
<td>Specific Gravity (Water=1)</td>
<td>1.48</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg, 20°C)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freeze/Melting Point</td>
<td>Decomposes above 150°C</td>
</tr>
<tr>
<td>PH</td>
<td>4.3 (1% solution)</td>
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<tr>
<td>Water/Oil Distribution Coefficient</td>
<td>Data not available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>Data not available</td>
</tr>
<tr>
<td>% Volatiles by Volume</td>
<td>Data not available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>36% w/w at 16°C</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Na$_2$S$_2$O$_5$</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>190.11</td>
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</tbody>
</table>
Section 10 - Stability and Reactivity

Stability
Stable under normal conditions.

Incompatibility
Moisture sensitive. Oxidizers may cause strong exothermic reaction. Acids, water, and ice yield sulphur dioxide gas, which is toxic, corrosive and potentially deadly. Temperatures above 150°C cause evolution of sulphur dioxide gas.

Hazardous Products of Decomposition
Decomposes to form sulphur dioxide gas which is toxic and corrosive (see above comments) and sodium sulphide residue which is flammable, dangerous fire risk, a strong irritant to skin and tissue and incompatible with acids.

Polymerization
Will not occur.

Section 11 - Toxicological Information

Irritancy
Data not available.

Sensitization
Data not available.

Chronic/Acute Effects
Medical conditions aggravated by exposure. May cause severe or deadly allergic reactions if inhaled or in some asthmatics or sulphide sensitive individuals.

Synergistic Materials
Data not available.

Animal Toxicity Data
LD50 (Intravenous, Rat) = 115 mg/kg

Carcinogenicity
Data not available.

Reproductive Toxicity
Data not available.

Teratogenicity
Data not available.

Mutagenicity
Data not available.

Section 12 - Ecological Information

Fish Toxicity
TLm (24 hour, Mosquito fish) = 120 ppm (converting bisulphite figure to meta bisulphite)

Biodegradability
Data not available.
Environmental Effects

Data not available.

Section 13 - Disposal Considerations

Waste Disposal

Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transportation Information

TDG Classification Not a dangerous good.

Class

Group

PIN Number

Other

Secure containers (full and/or empty) with suitable hold down devices during shipment.

Section 15 - Regulatory Information

WHMIS Classification................. D2

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS

Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.
# ClearTech Industries Inc. - Locations

Corporate Head Office: 2302 Hanselman Avenue, Saskatoon, SK, S7L 5Z3  
Phone: 306-664-2522  
Fax: 306-665-6216

www.ClearTech.ca

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Postal Code</th>
<th>Phone Number</th>
<th>Fax Number</th>
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<tbody>
<tr>
<td>Richmond BC</td>
<td>12431 Horseshoe way</td>
<td>V7A 4X6</td>
<td>604-272-4000</td>
<td>604-272-4596</td>
</tr>
<tr>
<td>Calgary AB</td>
<td>5516E - 40th St. S.E.</td>
<td>T2C 2A1</td>
<td>403-279-1096</td>
<td>403-236-0989</td>
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<tr>
<td>Edmonton AB</td>
<td>11750 - 180th Street</td>
<td>T5S 1N7</td>
<td>780-452-6000</td>
<td>780-452-4600</td>
</tr>
<tr>
<td>Saskatoon SK</td>
<td>2302 Hanselman Avenue</td>
<td>S7L 5Z3</td>
<td>306-933-0177</td>
<td>306-933-3282</td>
</tr>
<tr>
<td>Regina SK</td>
<td>555 Henderson Drive</td>
<td>S42 5X2</td>
<td>306-721-7737</td>
<td>306-721-8611</td>
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<tr>
<td>Winnipeg MB</td>
<td>340 Saulteaux Crescent</td>
<td>R3J 3T2</td>
<td>204-987-9777</td>
<td>204-987-9770</td>
</tr>
<tr>
<td>Mississauga ON</td>
<td>7480 Bath Road</td>
<td>L4T 1L2</td>
<td>905-612-0566</td>
<td>905-612-0575</td>
</tr>
</tbody>
</table>

24 Hour Emergency Number - All Locations - 306-664-2522