SECTION 1: IDENTIFICATION

Product Identifier
Product Form: Mixture
Product Name: Sodium Bisulfite Solution
Synonyms: Sodium bisulfite, SBS

Intended Use of the Product
For the manufacture of oxygen scavenging and dechlorination, bleaching agent, and papermaking.

Name, Address, and Telephone of the Responsible Party

Manufacturer
CHEMTRADE LOGISTICS INC.
155 Gordon Baker Road
Suite 300
Toronto, Ontario M2H 3N5
For MSDS Info: (416) 496-5856
www.chemtradelogistics.com

Emergency Telephone Number
Emergency number: Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300
Chemtrade Emergency Contact: (866) 416-4404
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)
Skin Corr. 1C  H314
Eye Dam. 1  H318

Label Elements
GHS-US Labeling

Hazard Pictograms (GHS-US):

Signal Word (GHS-US): Danger

Hazard Statements (GHS-US):
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary Statements (GHS-US):
P260 - Do not breathe mist, spray, vapors
P264 - Wash exposed areas. thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment (see Section 4)
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations
Sodium Bisulfite Solution
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Other Hazards
Other Hazards Not Contributing to the Classification: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US): Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substances</th>
<th>Product identifier</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
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<tr>
<td>Sodium bisulfite</td>
<td>(CAS No) 7631-90-5</td>
<td>30 - 44</td>
<td>Acute Tox. 4 (Oral), H302</td>
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<td></td>
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<td>Skin Corr. 1C, H314</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes severe skin burns and eye damage.

Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Skin Contact: Corrosive. Causes burns.

Eye Contact: Causes serious eye damage.

Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: None known.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities if liquid enter sewers or waterways.
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Hazardous Combustion Products: Toxic fumes are released. sulfur oxides. Sodium oxides.
Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections
Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Handle in accordance with good industrial hygiene and safety practice. Do NOT breathe (dust, vapor, mist, gas). Avoid all contact with skin, eyes, or clothing.
For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).
Emergency Procedures: Ventilate area.

Environmental Precautions
Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Large spill: clean up product by vacuum. Contact competent authorities after a spill.

Reference to Other Sections
See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling
Additional Hazards When Processed: When heated to decomposition, emits toxic fumes.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations.
Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from extremely high or low temperatures, ignition sources, direct sunlight, incompatible materials.
Specific End Use(s) For the manufacture of perfume, pharmaceuticals, photochemicals, bleaching agent, and papermaking.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

<table>
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<tr>
<th>Sodium bisulfite (7631-90-5)</th>
<th>USA ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
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<td>Nunavut</td>
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<td>OEL TWA (mg/m³)</td>
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<td>Québec</td>
<td>VEMP (mg/m³)</td>
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</table>
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| Saskatchewan | OEL STEL (mg/m³) | 10 mg/m³ |
| Saskatchewan | OEL TWA (mg/m³) | 5 mg/m³ |

### Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Protective goggles. Gloves. Insufficient ventilation: wear respiratory protection. Protective clothing.

**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Corrosionproof clothing.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical goggles or safety glasses.

**Skin and Body Protection:** Not available

**Respiratory Protection:** Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.

**Other Information:** When using, do not eat, drink or smoke.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on Basic Physical and Chemical Properties**

- **Physical State:** Liquid
- **Appearance:** Pale to deep pink.
- **Odor:** Pungent. Sulfurous.
- **Odor Threshold:** Not available
- **pH:** 3.8 - 5.2
- **Relative Evaporation Rate (butylacetate=1):** Not available
- **Melting Point:** Not applicable
- **Freezing Point:** 6 °C (42.8°F)
- **Boiling Point:** 104 °C (219.2°F) @ 20°C
- **Flash Point:** Not available
- **Auto-ignition Temperature:** Not available
- **Decomposition Temperature:** Not available
- **Flammability (solid, gas):** Not applicable
- **Lower Flammable Limit:** Not available
- **Upper Flammable Limit:** Not available
- **Vapor Pressure:** 10.4 kPa (78 mm Hg) [20°C]
- **Relative Vapor Density at 20 °C:** Not available
- **Relative Density:** Not available
- **Specific Gravity:** 1.33
- **Solubility:** Water: Miscible in all proportions in water.
- **Partition coefficient: n-octanol/water:** Not available
- **Viscosity:** Not available

**Explosion Data – Sensitivity to Mechanical Impact:** Not expected to present an explosion hazard due to mechanical impact.

**Explosion Data – Sensitivity to Static Discharge:** Not expected to present an explosion hazard due to static discharge.

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** Stable at standard temperature and pressure.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Sources of ignition. Incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.

**Hazardous Decomposition Products:** Sulfur oxides. Sodium oxides.
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SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product
Acute Toxicity: Not classified
LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.
PH: 3.8 - 5.2

Serious Eye Damage/Irritation: Causes serious eye damage.
PH: 3.8 - 5.2

Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not available
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/Injuries After Skin Contact: Corrosive. Causes burns.

Symptoms/Injuries After Eye Contact: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: None known.

Information on Toxicological Effects - Ingredient(s)
LD50 and LC50 Data:

Sodium bisulfite (7631-90-5)
LD50 Oral Rat 1420 mg/kg
LD50 Dermal Rat > 2000 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Sodium bisulfite (7631-90-5)
EC50 Daphnia 1 119 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Persistence and Degradability

Sodium Bisulfite Solution
Persistence and Degradability Not established.

Bioaccumulative Potential

Sodium Bisulfite Solution
Bioaccumulative Potential Not established.

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name: BISULFITES, AQUEOUS SOLUTIONS, N.O.S.(Sodium bisulphite)
Sodium Bisulfite Solution
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Hazard Class: 8
Identification Number: UN2693
Label Codes: 8
Packing Group: III
ERG Number: 154

14.2 In Accordance with IMDG
Proper Shipping Name: BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Hazard Class: 8
Identification Number: UN2693
Packing Group: III
Label Codes: 8
EmS-No. (Fire): F-A
EmS-No. (Spillage): S-B

14.3 In Accordance with IATA
Proper Shipping Name: BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Packing Group: III
Identification Number: UN2693
Hazard Class: 8
Label Codes: 8
ERG Code (IATA): 8L

14.4 In Accordance with TDG
Proper Shipping Name: BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Packing Group: III
Hazard Class: 8
Identification Number: UN2693
Label Codes: 8

SECTION 15: REGULATORY INFORMATION

US Federal Regulations
Sodium Bisulfite Solution
SARA Section 311/312 Hazard Classes
Immediate (acute) health hazard

Sodium bisulfite (7631-90-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations
Sodium bisulfite (7631-90-5)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations
Sodium Bisulfite Solution
WHMIS Classification
Class E - Corrosive Material

Sodium bisulfite (7631-90-5)
Listed on the Canadian DSL (Domestic Substances List) inventory.
Listed on the Canadian Ingredient Disclosure List
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<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Class E - Corrosive Material</td>
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</table>

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date: 05/02/2015
Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
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</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1C</td>
<td>Skin corrosion/irritation Category 1C</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
</tbody>
</table>

Party Responsible for the Preparation of This Document
CHEMTRADE LOGISTICS, INC.
For SDS Info: (416) 496-5856

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA’S “Right to Know” (29 CFR 1910.1200) and Canada’s WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.