



## Material Safety Data Sheet

Provided by:

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# SODIUM BISULFITE

## 1. Product Identification

**Synonyms:** Sodium acid sulfite; Sulfurous acid, monosodium salt; Sodium hydrogen sulfite, solid

**CAS No.:** 7631-90-5

**Molecular Weight:** 104.06

**Chemical Formula:** A mixture of NaHSO<sub>3</sub> (sodium bisulfite) and Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub> (sodium metabisulfite)

**Product Codes:** 3556, 3557

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Bisulfite	7631-90-5	58 - 99%	Yes
Sodium Metabisulfite	7681-57-4	1 - 42%	Yes

## 3. Hazards Identification

### Emergency Overview

**WARNING! HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE ALLERGIC RESPIRATORY REACTION. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. REACTS WITH ACIDS AND WATER RELEASING TOXIC SULFUR DIOXIDE GAS.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)

Flammability Rating: 0 - None

Reactivity Rating: 2 - Moderate

Contact Rating: 3 - Severe

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

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## Potential Health Effects

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### **Inhalation:**

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. May cause allergic reaction in sensitive individuals.

### **Ingestion:**

May cause gastric irritation by the liberation of sulfurous acid. An asthmatic reaction may occur after ingestion. Large doses may result in nausea, vomiting, diarrhea, abdominal pains, circulatory disturbance, and central nervous system depression. Estimated fatal dose is 10 gm.

### **Skin Contact:**

Causes irritation to skin. Symptoms include redness, itching, and pain.

### **Eye Contact:**

Causes irritation, redness, and pain. Contact may cause irreversible eye damage. Symptoms may include stinging, tearing, redness, swelling, corneal damage and blindness.

### **Chronic Exposure:**

No information found.

### **Aggravation of Pre-existing Conditions:**

Some individuals are said to be dangerously sensitive to minute amounts of sulfites in foods. Symptoms may include broncho constriction, shock, gastrointestinal disturbances, angio edema, flushing, and tingling sensations. Once allergy develops, future exposures can cause asthma attacks with shortness of breath, wheezing, and cough.

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## 4. First Aid Measures

### **Inhalation:**

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

### **Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

### **Skin Contact:**

Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

### **Eye Contact:**

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

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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. Do not allow water runoff to enter sewers or waterways.

**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: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Cautiously spray residue with plenty of water, providing ventilation to clear sulfur dioxide fumes generated from water contact. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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## 7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Releases toxic sulfur dioxide gas when in contact with water, ice. 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:**

-ACGIH Threshold Limit Value (TLV):

5mg/m<sup>3</sup> (TWA) for sodium bisulfite & for sodium metabisulfite, A4 Not classifiable as a human carcinogen.

**Ventilation System:**

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

**Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded and engineering controls are not feasible, a half-face respirator with an acid gas cartridge may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied

respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

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

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Coarse white granules.

**Odor:**

Slight odor of sulfur dioxide.

**Solubility:**

Very soluble in water, insoluble in alcohol.

**Specific Gravity:**

1.48

**pH:**

No information found.

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

No information found.

**Boiling Point:**

Not applicable.

**Melting Point:**

150C (302F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Strength diminishes somewhat with age. Gradually decomposes in air to sulfate, generating sulfurous acid gas. Contact with moisture (water, wet ice, etc.), will release toxic sulfur dioxide gas.

**Hazardous Decomposition Products:**

Burning may produce sulfur oxides.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Water, acids, alkalis, sodium nitrite, oxidizers, aluminum powder.

**Conditions to Avoid:**

Moisture, heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

Sodium Metabisulfite [7681-57-4]: No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a tumorigen, mutagen and reproductive effector. Sodium Bisulfite [7631-90-5]: Oral rat LD50: 2000 mg/kg. Investigated as a tumorigen and mutagen.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Bisulfite (7631-90-5)	No	No	3
Sodium Metabisulfite (7681-57-4)	No	No	3

## 12. Ecological Information

### Environmental Fate:

No information found.

### Environmental Toxicity:

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

Ingredient	TSCA	EC	Japan	Australia
Sodium Bisulfite (7631-90-5)	Yes	Yes	Yes	Yes
Sodium Metabisulfite (7681-57-4)	Yes	Yes	Yes	Yes

Ingredient	Korea	DSL	NDSL	Phil.
Sodium Bisulfite (7631-90-5)	Yes	Yes	No	Yes
Sodium Metabisulfite (7681-57-4)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

-SARA 302- -----SARA 313-----

Ingredient RQ TPQ List Chemical Catg.

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Sodium Bisulfite (7631-90-5) No No No No  
Sodium Metabisulfite (7681-57-4) No No No No

-----\Federal, State & International Regulations - Part 2\-----

-RCRA- -TSCA-

Ingredient CERCLA 261.33 8(d)

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Sodium Bisulfite (7631-90-5) 5000 No Yes  
Sodium Metabisulfite (7681-57-4) No No Yes

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

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**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.

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## 16. Other Information

**NFPA Ratings:** Health: **1** Flammability: **0** Reactivity: **1**

**Label Hazard Warning:**

WARNING! HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE ALLERGIC RESPIRATORY REACTION. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. REACTS WITH ACIDS AND WATER RELEASING TOXIC SULFUR DIOXIDE GAS.

**Label Precautions:**

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

For Reagent and Technical Grades: Not For Food Use. For TAC Grades: Do not use in meats or in foods recognized as a source of Vitamin B-1, nor in fruits or vegetables to be served or sold raw to consumers or to be presented to consumers as fresh.

**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, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.