

MATERIAL SAFETY DATA SHEET

SODIUM METABISULFITE

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sodium Metabisulfite MSDS No.: 125985-03

OTHER/GENERIC NAMES: Anhydrous Sodium Bisulfite
Sodium Pyrosulfite
ABS

PRODUCT USE: Drug manufacture, food additive, water treatment, textile manufacture, photographic chemicals, and other chemical processes.

SUPPLIER: Harcros Chemicals, Inc.
5200 Speaker Road
Kansas City, KS 66106-1095
(913)-321-3131

FOR EMERGENCY IN USA, CALL CHEMTREC: 800-424-9300
(24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Fine, white granular product with a pungent sulfur dioxide gas odor. May irritate the skin. May cause irritation and/or burns to the eyes. Harmful if swallowed or inhaled. May cause severe and possibly fatal allergic reactions if inhaled or swallowed by some asthmatics and other 'sulfite-sensitive' individuals. Reacts with acids to form toxic and irritating sulfur dioxide gas. Releases sulfur dioxide if heated above 300°F.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Sodium metabisulfite	7681-57-4	>98
Sodium sulfite	7757-83-7	<1.5

Trace impurities and additional material names not listed above may appear in Section 15 of this MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

OSHA Hazard Communication Standard: *This product is considered hazardous under the OSHA Hazard Communication Standard.*

4. FIRST AID MEASURES

SKIN: Immediately wash skin with plenty of soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.

EYES: Flush eyes immediately with water for at least 15 minutes. Remove contact lenses if present after the first 5 minutes if you can do so easily and continue flushing. Get immediate medical attention.

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INHALATION: Promptly remove to fresh air. Get immediate medical attention if signs of suffocation, irritation or other symptoms develop.

INGESTION: If conscious, immediately rinse mouth with water and give 1 glass of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

ADVICE TO PHYSICIAN: Treat symptomatically. Note potential for anaphylactic shock with allergic individuals.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

Material is not flammable. Use extinguishing media appropriate for material in surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Releases toxic and irritating sulfur dioxide at fire temperatures.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

Wear NIOSH-approved self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (See section 8 for recommended personal protective equipment.)

Promptly sweep up material with minimum dusting and shovel into an empty container with a cover. Rinse spill area with plenty of water. Provide ventilation to clear sulfur dioxide fumes which may be generated by contact with water.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements

7. HANDLING AND STORAGE

NORMAL HANDLING: (See section 8 for recommended personal protective equipment.)

Avoid contact with skin, eyes and clothing. Do not breathe dust. Do not eat or drink in the work area. Use normal personal hygiene and housekeeping. Keep away from water, ice, acids, heat and oxidizing agents. For Food Grade product, see precautions in section 16 regarding on-board use in preserving shrimp and fish.

STORAGE RECOMMENDATIONS:

Store in a cool, dry, well-ventilated area away from water, ice, acids, and oxidizing agents. Releases sulfur dioxide gas slowly at ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Local exhaust if dusty conditions exist or if there is a release of sulfur dioxide gas. Do not use in unventilated spaces, e.g., the holds of fishing boats, walk-in coolers or confined spaces.

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PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: For handling dry material, wear rubber gloves and full work clothing, including long-sleeved shirt and trousers. When handling solutions and there is prolonged or repeated contact, wear impervious gloves, clothing and boots.

EYE PROTECTION: Wear chemical safety goggles.

RESPIRATORY PROTECTION: Where required, use a NIOSH-approved respirator for dust, mist and/or sulfur dioxide gas, as conditions indicate. Some exposures may require a NIOSH-approved self-contained breathing apparatus or supplied-air respirator. Equipment selection depends on contaminant type and concentration. Select in accordance with 29 CFR 1910.134 and good industrial hygiene practice.

ADDITIONAL RECOMMENDATIONS: Eyewash and safety shower are recommended.

EXPOSURE GUIDELINES

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Sodium metabisulfite	5 mg/m ³ TWA	None	None

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

Sulfur dioxide: OSHA TWA = 5 ppm
ACGIH STEL = 0.25 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Fine, white granular material.	
PHYSICAL STATE:	Solid.	
MOLECULAR WEIGHT:	190.11	
CHEMICAL FORMULA:	Na ₂ S ₂ O ₅	
ODOR:	Pungent sulfur dioxide odor.	
SPECIFIC GRAVITY (water = 1.0):	1.48	
SOLUBILITY IN WATER (weight %):	39% at 16C	
pH:	1% solution - 4.3	
BOILING POINT:	Not applicable.	
MELTING POINT:	Begins to rapidly decompose above 150C	
VAPOR PRESSURE:	Not applicable.	
VAPOR DENSITY (air = 1.0):	Not applicable.	
EVAPORATION RATE:	Not applicable.	COMPARED TO: Not applicable.
% VOLATILES:	Not applicable.	
FLASH POINT:	Not flammable.	
FLASH POINT METHOD:	Not applicable	
AUTOIGNITION TEMPERATURE:	Not applicable	
UPPER FLAME LIMIT (volume % in air):	Not applicable	
LOWER FLAME LIMIT (volume % in air):	Not applicable	
FLAME PROPAGATION RATE (solids):	Not applicable	
OSHA FLAMMABILITY CLASS:	Not applicable	

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10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):

Normally stable. Avoid elevated temperatures. Temperatures above 150C cause the rapid evolution of toxic and corrosive sulfur dioxide gas.

INCOMPATIBILITIES:

Oxidizers: may cause strong exothermic reactions.

Acids, water and ice: releases sulfur dioxide gas which is toxic, corrosive, and potentially deadly. Water and/or ice speeds the production of sulfur dioxide gas.

HAZARDOUS DECOMPOSITION PRODUCTS:

Sulfur dioxide and sodium sulfide residue. Sodium sulfide is flammable, a dangerous fire risk, a strong irritant to skin and tissue, and is incompatible with acids.

HAZARDOUS POLYMERIZATION:

Will not occur.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH HAZARDS

- SKIN:** Repeated or prolonged contact with dust may cause irritation. Contact with solutions will cause skin irritation and possibly burns.
- EYES:** Dust or mist may irritate or burn the eyes. Solutions will irritate or burn. Permanent eye injury is possible.
- INHALATION:** Inhalation of dust or mist can irritate the respiratory tract. May cause severe or deadly allergic reactions in some asthmatics and sulfite sensitive individuals. Possible signs and symptoms of allergic reactions include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure, and anaphylaxis. Contact with acids, water and/or ice, releases sulfur dioxide gas which may be harmful or deadly if inhaled.
- INGESTION:** May irritate the gastrointestinal tract. May cause severe or deadly allergic reactions in some asthmatics and sulfite sensitive individuals. Very large doses may cause violent colic, diarrhea, depression, and even death.
- DELAYED EFFECTS:** None known.

Ingredients found on one of the three OSHA designated carcinogen lists are listed below.

INGREDIENT NAME

No ingredients listed in this section.

NTP STATUS

IARC STATUS

OSHA LIST

TOXICITY DATA:

Immediate (Acute) Effects:

Sodium metabisulfite - LD₅₀ (oral, rat) = 1131 - 3200 mg/kg

Sodium sulfite - LD₅₀ (oral, mouse) = 820 mg/kg, LD₅₀ (oral, rat) = 2610-6400 mg/kg; LC₅₀ (inhalation, rat) >5.5 mg/L/4 hr.; LC₅₀ (inhalation, rat) >22 mg/L/1 hr.

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Delayed (Subchronic and Chronic) Effects:

Sodium sulfite has been demonstrated to be mutagenic in microbial systems; however, it is not mutagenic in studies involving insects and is not considered to present a mutagenic threat to multi-cell organisms. Sodium metabisulfite is not mutagenic in microbial systems or in rat bone marrow metaphase assay or dominant lethal test in rats. A 2 year feeding study in rats was negative for carcinogenicity. In a three generation feeding study in rats, no adverse effects on reproduction was observed.

Other Data:

None

12. ECOLOGICAL INFORMATION

The following ecotoxicity data is available for Sodium metabisulfite:

Daphnia magna EC50 24 hrs	89 mg/L
Lepomis macrochirus 96hrs LC50	32 mg/L
Scenedesmus subspicatus (algae) 72 hrs EC50	48 mg/L

The following ecotoxicity data is available for Sodium sulfite:

Daphnia magna LC50 48 hrs	440 mg/L
Western Mosquitofish 96hrs LC50	460 mg/L
Biological Oxygen Demand (BOD)	0.12 lb/lb, instantaneous

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? No

If yes, the RCRA ID number is: Not applicable.

OTHER DISPOSAL CONSIDERATIONS:

Dispose of in accordance with applicable Federal, State and Local regulations.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS:	Not regulated.
US DOT ID NUMBER:	Not applicable.
PROPER SHIPPING NAME:	Not applicable.

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS:	All components are listed on TSCA Inventory of Chemical Substances.
OTHER TSCA ISSUES:	None.

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SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

INGREDIENT NAME

No ingredients listed in this section.

SARA/CERCLA RQ (lb)

SARA EHS TPQ (lb)

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee. Many states have more stringent regulations. Report all spills in accordance with local, state and federal regulations.

SECTION 311 HAZARD CLASS: Acute Health

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

INGREDIENT NAME

No ingredients listed in this section.

COMMENT

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

INGREDIENT NAME

No ingredients listed in this section.

WEIGHT %

COMMENT

ADDITIONAL REGULATORY INFORMATION:

None

WHMIS CLASSIFICATION (CANADA):

D2B

FOREIGN CHEMICAL CONTROL INVENTORY STATUS:

Listed on Canadian DSL, Australian AICS, Phillipines PICCS, Chinese IECSC, Japanese MITI, Korean KECL, and EU EINECS.

16. OTHER INFORMATION

CURRENT ISSUE DATE: October, 2010
PREVIOUS ISSUE DATE: September, 2007

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

Updated section 8 for revised exposure limits. Added toxicity data to Section 11 and 12.

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OTHER INFORMATION:

Only NF grade is for use in drug formulation. Only Food Grade material is for use as a food additive.

On-board ship use of Food Grade material to preserve shrimp and fish:

NEVER apply dry material to shrimp or fish. **ALWAYS** prepare and use a solution in a well-ventilated area.

NEVER use below deck or in any confined space such as a hold or cooler. Injury or death may occur.

ALWAYS use on deck with plenty of ventilation. Follow mixing and use directions printed on bag.

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