

Material Safety Data Sheet

Sodium Metabisulfite

1. PRODUCT AND COMPANY IDENTIFICATION -- Ruger Product Number -- 0677

PRODUCT NAME: Sodium Metabisulfite

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.

Ruger Chemical Company, Inc.
1515 West Blancke Street
Linden, New Jersey 07036
973 - 926 - 0331

2. 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.*

3. 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.

POTENTIAL HEALTH HAZARDS

SKIN: Repeated or prolonged contact with dust may cause irritation. Contact with solutions will cause skin irritation.

EYES: Dust or mist may irritate or burn the eyes. Solutions will irritate or burn.

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INHALATION: Contact with acids, water and/or ice, releases sulfur dioxide gas which may be harmful or deadly if inhaled. May cause severe or deadly allergic reactions in some asthmatics and sulfite sensitive individuals. Inhalation of dust or mist can irritate the respiratory tract. Possible signs and symptoms of allergic reactions include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure and anaphylaxis.

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.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
No ingredients listed in this section.			

4. FIRST AID MEASURES

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

EYES: Flush eyes immediately with water for at least 15 minutes. Get medical attention.

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

INGESTION: If conscious, immediately give a large quantity of water or milk and induce vomiting by touching finger to back of throat. Get immediate medical attention. Never give anything by mouth to an unconscious person.

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

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

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

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.

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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. Cautiously spray residue 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.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: For handling dry material, wear cotton 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 a hard hat (or other head covering) and chemical safety goggles. Do not wear contact lenses.

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.

ADDITIONAL RECOMMENDATIONS: Eyewash and safety shower is recommended.

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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	-----	-----

¹ = Limit established by General Chemical Corporation.

² = Workplace Environmental Exposure Level (AIHA).

³ = Biological Exposure Index (ACGIH).

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

Sulfur dioxide: OSHA TWA = 5 ppm
ACGIH TLV = 2 ppm
ACGIH STEL = 5 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 and additional flammability data are found in Section 5.)

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.

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11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

Sodium metabisulfite – LD₅₀ (oral, rat) = 424 mg/kg

Sodium bisulfite – LD₅₀ (oral, mouse) = 820 mg/kg

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.

OTHER DATA:

None

12. ECOLOGICAL INFORMATION

For Sodium sulfite:

2600 ppm/24, 48 & 96 hr/mosquito fish/TL_m/fresh water

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

SARA/CERCLA RQ (lb)

SARA EHS TPQ (lb)

No ingredients listed in this section.

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.

SECTION 311 HAZARD CLASS: Immediate.

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

COMMENT

No ingredients listed in this section.

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

WEIGHT %

COMMENT

No ingredients listed in this section.

ADDITIONAL REGULATORY INFORMATION:

None

WHMIS CLASSIFICATION (CANADA):

D2B

FOREIGN CHEMICAL CONTROL INVENTORY STATUS:

Listed on Canadian DSL and EU EINECS.

16. OTHER INFORMATION

CURRENT ISSUE DATE: April, 2003

PREVIOUS ISSUE DATE: January, 2002

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

Change in company name.

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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.