



MATERIAL SAFETY DATA SHEET

Sodium Metabisulphite

1. Product Identification

Synonyms: Sodium Pyrosulphite, Sodium Disulfite

CAS No.: 7681-57-4

Molecular Weight: 190.10

Chemical Formula: Na₂S₂O₅

Product Codes: S242

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Metabisulphite	7681-57-4	100%	No

3. Hazards Identification

EMERGENCY OVERVIEW

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

Health Rating: 2 - Moderate

Flammability Rating: 0 - None

Reactivity Rating: 2 - Moderate

Contact Rating: 3 - Severe

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

Storage Color Code: Green (General Storage)

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator), of eye contact (irritant).

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

pain, circulatory disturbance, & central nervous system depression. Estimated fatal dose in 10gm.

Skin Contact:

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

Eye Contact:

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

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer), of ingestion, of inhalation (lung irritant). CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to upper respiratory tract, skin, and eyes. Repeated or prolonged exposure to the substance can produce target organs damage.

Aggravation of Pre-existing Conditions:

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

4. First Aid Measures

Inhalation:

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

Serious Inhalation:

Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention.

Skin Contact:

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

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Eye Contact:

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

5. Fire Fighting Measures

Fire:

Not considered to be fire hazard.

Explosion:

Not considered to be an explosion hazard.

Special Remarks on Explosion Hazards:

Not available.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways.

Products of Combustion:

Not available.

Fire Hazards in Presence of Various Substances:

Not applicable.

Special Information on Fire Hazards:

When heated to decomposition it emits toxic fumes of SO_x, Na₂O. Decomposes on heating to form sodium sulfate.

Fire Fighting Media and Instructions:

Not applicable.

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.

6. Accidental Release Measures**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and Storage**Precautions:**

Keep locked up. Do not ingest. Do not breathe dust. Avoid contact with skin. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Moisture sensitive. Air Sensitive.

8. Exposure Controls/Personal Protection**Airborne Exposure Limits:**

-ACGIH Threshold Limit Value (TLV):

5mg/m³ (TWA) for sodium bisulfite & for Sodium Metabisulphite, A4 Not classifiable as human carcinogen.

Ventilation System:

A system a 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 as 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.

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Personal Respirators:

If the exposure limit is exceeded, a half-face respirators 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 face-piece 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. (Neoprene, polyvinyl chloride).

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench in work area.

9. **Physical and Chemical Properties**

Appearance:

white to yellow white crystalline granules.

Odor:

Slight odor of sulfur dioxide.

Solubility:

Very soluble in water, insoluble in alcohol.

Density:

1.48.

pH:

Aqueous solution in acidic.

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

0.

Boiling Point:

Not applicable

Melting Point:

150°C (302F).

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Molecular Weight:

190.10

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity**Stability:**

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

Conditions to Avoid:

Moisture, heat, flame, ignition sources and incompatibles.

Conditions of Instability:

Incompatible materials, heat, moisture, air, dust generation.

Incompatibilities:

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

Hazardous Decomposition

Oxides of sulfur and sodium may form when heated to decomposition.

Special Remarks on Reactivity:

Moisture sensitive Air sensitive. It slowly oxidizes to sodium sulfate upon exposure to air and moisture. Incompatible with sodium nitrite.

Corrosivity:

Non-corrosive in presence of glass.

Hazardous Polymerization:

Will not occur.

11. Toxicological Information**Routes of Entry:**

Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 1131 mg/kg [Rat]. Acute dermal toxicity (LD50): >1000 mg/kg [Guinea pig].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Chronic Effects on Humans:

May affect genetic material (mutagenic) based on animal test data. May cause adverse reproductive effects based on animal test data.

Special Remarks on other Toxic Effects on Humans:**Acute Potential Health Effects:*****Skin:***

May cause skin irritation.

Eyes:

May cause eye irritation.

Inhalation:

May cause respiratory tract irritation with coughing and wheezing.

Ingestion:

May be harmful if swallowed. May cause gastrointestinal tract irritation with abdominal pain, nausea, vomiting, diarrhea, violent colic, and possible gastric hemorrhaging. May affect behavior/central nervous system and cause central nervous system depression/seizures. It may also affect the cardiovascular system (hypotension, tachycardia, cardiovascular collapse), Ingestion of sulfite compounds may cause a severe allergic reaction (anaphylactoid symptoms) in sensitive individuals and some asthmatics.

Chronic Potential Health Effects:***Skin:***

Prolonged or repeated skin contact may cause allergic dermatitis.

Ingestion:

Prolonged or repeated ingestion may affect the liver, urinary system, and metabolism (weight loss). Future exposures may also cause asthma like allergy with coughing, shortness of breath, wheezing and/or chest tightness.

Inhalation:

Prolonged or repeated inhalation may irritate the lungs, may cause bronchitis to develop with cough, phlegm and/or shortness of breath.

12. Ecological Information**Ecotoxicity:**

Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:

The products of degradation are less toxic than the product itself.

13. **Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste 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.

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. **Transport Information**

DOT Classification:

Not a DOT controlled material.

Identification:

Not applicable.

Special Provisions for Transport:

Not available.

Protective Equipment:

Gloves (impervious). Synthetic apron. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

15. **Other Information**

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **1**

Label Hazard Warning:

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

Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

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 sources 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. Ash clothing before reuse. In all cases, get medical attention.

Product Use:

Laboratory reagent.

Revision Information:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.



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