

MATERIAL SAFETY DATA SHEET

SODIUM SULPHITE, SOLID

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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WHMIS#: 00060721
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EMERGENCY TELEPHONE NUMBERS (FOR EMERGENCIES INVOLVING CHEMICAL SPILLS OR RELEASE)

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PRODUCT IDENTIFICATION

Product Name: Sodium Sulphite, Solid.
Chemical Name: Sodium Sulphite, Solid.
Synonyms: Sodium Sulphite Food Grade ; Sodium Sulphite 98 % Photography Grade ; Sodium Sulphite 91, 96, 97 % ; Disodium Sulphite ; Sodium Sulphite Commercial Anhydrous ; Sulftech (R) ; Exsiccated Sodium Sulphite ; Sodium Sulphite Anhydrous.
Chemical Family: Sulphites. Inorganic salt.
Molecular Formula: Na₂SO₃.
Product Use: Pulp and paper industry. Corrosion Inhibitor. Reducing agent. Bleaching agent. Water treatment. Food additive. Preservative.

WHMIS Classification / Symbol:

D-2A: Very Toxic (respiratory sensitizer)



READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

<i>Ingredient</i>	<i>CAS#</i>	<i>ACGIH TLV</i>	<i>% Concentration</i>
Sodium Sulphite	7757-83-7	---	90 - 99
Sodium Sulphate	7757-82-6	---	1 - 10

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Harmful if inhaled or swallowed. Dust is irritating to respiratory tract. May cause respiratory sensitization or other allergic responses. This material is a strong reducer which is stable under normal conditions, but can decompose if contaminated. At processing temperatures : Gas is extremely irritating to eyes and respiratory tract. Can decompose at high temperatures forming toxic gases.

POTENTIAL HEALTH EFFECTS

Inhalation: Product may be mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Excessive contact with powder may cause drying of mucous membranes of nose and throat due to absorption of moisture and oils. May cause central nervous system (CNS) depression, respiratory sensitization or other allergic responses. See "Other Health Effects" Section.

Skin Contact:	This product may cause irritation due to abrasive action. Excessive contact with powder may cause drying of the skin due to absorption of moisture and oils. Sodium Sulphite may cause symptoms of skin irritation such as reddening, swelling, rash, scaling, or blistering. Prolonged and repeated contact may lead to dermatitis.
Skin Absorption:	Not likely to be absorbed through the skin.
Eye Contact:	This product may cause irritation, redness and possible damage due to abrasiveness. Excessive contact with powder may cause drying of mucous membranes of the eyes due to absorption of moisture and oils.
Ingestion:	Ingestion is not a likely route of exposure. This product may cause mild gastrointestinal discomfort. May produce Sulphur Dioxide on mixing with (stomach) acids. Ingestion of very high levels may cause violent colic, diarrhea, circulatory disturbances, central nervous system (CNS) depression.
Other Health Effects:	<p>Effects (irritancy) on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential.</p> <p>May cause central nervous system (CNS) depression and respiratory sensitization or other allergic responses. CNS depression is characterized by headache, dizziness, drowsiness, nausea, vomiting and incoordination. Severe overexposures may lead to coma and possible death due to respiratory failure.</p> <p>Sulphite-sensitive people who inhale or ingest this product may experience severe allergic reaction. Exposure to small amounts of sulfites have been reported to cause hypersensitivity reaction in certain susceptible individuals, especially asthmatics. Symptoms include hives, respiratory distress, flushing, gastro-intestinal disturbances and contact dermatitis. (3)</p> <p>A readily obtained degradation product is sulphur dioxide. Sulphur dioxide can be released if sodium sulphite is used improperly in acidic conditions. Sulphur dioxide is toxic and can cause death in extreme cases, eg: if the gas is released into a poorly ventilated area. (3) IDLH (Immediately Dangerous to Life and Health) for sulphur dioxide is 100 ppm.</p>

4. FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical attention IMMEDIATELY.
Skin Contact:	Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.
Eye Contact:	Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY.
Ingestion:	Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. IMMEDIATELY contact local Poison Control Centre. Vomiting should only be induced under the direction of a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY transport victim to an emergency facility.
Note to Physicians:	<p>Treat symptomatically. Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. This should include preemployment and periodic medical examinations with respiratory function tests (forced expiratory volume, forced vital capacity as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product. Once a person is diagnosed as sensitized, no further exposure to any sensitizer should be permitted.</p> <p>Sulphur Dioxide : Persons subject to asthmatic attacks may experience asthmatic paroxysm. Any disorder inhibiting nasal respiration or any cardiovascular disease may preclude exposure to sulphur dioxide. Effects may be exacerbated in smokers. Significant variations in individual susceptibilities to sulphur dioxide probably exist.</p> <p>Medical conditions that may be aggravated by exposure to this product include neurological, cardiovascular and skin disorders, diseases of the skin, eyes or respiratory tract (asthma and bronchitis).</p>

5. FIRE-FIGHTING MEASURES

Flashpoint (°C)	Autolgnition Temperature (°C)	Flammability Limits in Air (%)	
		LEL	UEL
Non-combustible (does not burn).	Not applicable.	Not applicable.	Not applicable.
Flammability Class (WHMIS):	Not regulated.		
Hazardous Combustion Products:	Thermal decomposition products are toxic and may include Sulfur dioxide, oxides of sodium and irritating gases.		
Unusual Fire or Explosion Hazards:	Minimize air borne spreading of dust. Spilled material may cause floors and contact surfaces to become slippery.		
Sensitivity to Mechanical Impact:	Not expected to be sensitive to mechanical impact.		
Rate of Burning:	Not available.		
Explosive Power:	Not available.		
Sensitivity to Static Discharge:	Not expected to be sensitive to static discharge.		
EXTINGUISHING MEDIA			
Fire Extinguishing Media:	Use carbon dioxide or dry chemical media for small fires. If only water is available, use it in the form of a fog.		
FIRE FIGHTING INSTRUCTIONS			
Instructions to the Fire Fighters:	Isolate materials that are not involved in the fire and protect personnel. Cool containers with flooding quantities of water until well after the fire is out. Spilled material may cause floors and contact surfaces to become slippery.		
Fire Fighting Protective Equipment:	Use self-contained breathing apparatus and protective clothing.		

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures: See Section 13, "Deactivating Chemicals". In all cases of leak or spill contact vendor at Emergency Number shown on the front page of this MSDS.

Minimize air borne spreading of dust. Eliminate all sources of ignition. Spilled material may cause floors and contact surfaces to become slippery. Wear respirator, protective clothing and gloves. Avoid dry sweeping. Do not use compressed air to clean surfaces. Vacuuming is preferred. Return all material possible to container for proper disposal. Ventilate enclosed spaces. Any recovered product can be used for the usual purpose, depending on the extent and kind of contamination. Collect product for recovery or disposal. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE

HANDLING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices. Minimize air borne spreading of dust.

Ventilation Requirements: See Section 8, "Engineering Controls".

Other Precautions: Use only with adequate ventilation and avoid breathing dusts (fumes or gas). Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use.

STORAGE

Storage Temperature (°C): See below.

Ventilation Requirements: Ventilation should be corrosion proof.

Storage Requirements: Do not store near oxidizing agents or acids. Store in a cool, dry and well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Prolonged storage may result in lumping or caking.

Special Materials to be Used for Packaging or Containers: Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls: Local exhaust ventilation required. Ventilation should be corrosion proof. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense dust may collect.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Safety glasses with side shields are recommended as minimal eye protection. Use chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.

Skin Protection: Gloves and protective clothing made from cotton, canvas, rubber or plastic or Use gloves and protective clothing made of material which has been found by user to be impervious under conditions of use. should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.

Respiratory Protection: No specific guidelines available. A NIOSH/MSHA approved dust mask for concentrations of nuisance dust up to 100 mg/M3 particulate. At processing temperatures : A NIOSH/MSHA-approved air-purifying respirator equipped with dust, mist, fume cartridges for concentrations up to 20 ppm Sulphur Dioxide. An air-supplied respirator if concentrations are higher or unknown.

Immediately Dangerous to Life and Health (IDLH) value: 100 ppm Sulphur Dioxide. The purpose of establishing an IDLH value is to ensure that the worker can escape from a given contaminated environment in the event of failure of the most protective respiratory equipment. In the event of failure of respiratory protective equipment, every effort should be made to exit immediately. (4)

Other Personal Protective Equipment: Wear an impermeable apron and boots. Locate safety shower and eyewash station in area unlikely to be affected by a release of sulphur dioxide and near storage and handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES

Particulate Not Otherwise Classified:

ACGIH	OSHA
10 mg/m ³ - Inhalable particulate	50 mppcf* or 15 mg/m ³ - Total Dust
3 mg/m ³ - Respirable particulate	15 mppcf* or 5 mg/m ³ - Respirable Fraction

* mppcf = million particles per cubic foot

9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State:	Solid.
Appearance:	White crystal or powder; a free flowing light pink-brown powder.
Odour:	Odourless.
Odour Threshold (ppm):	Not available.
Boiling Range (°C):	600 (decompose).
Melting/Freezing Point (°C):	Not available.
Vapour Pressure (mm Hg at 20° C):	Not applicable.
Vapour Density (Air = 1.0):	Not applicable.
Relative Density (g/cc):	2.6.
Bulk Density:	Not available.
Viscosity:	Not applicable.
Evaporation Rate (Butyl Acetate = 1.0):	Not applicable.
Solubility:	Soluble in water.
% Volatile by Volume:	0%
pH:	9 - 10 (10 % solution)
Coefficient of Water/Oil Distribution:	Not available.
Volatile Organic Compounds (VOC):	Not applicable.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions:	Stable.
Under Fire Conditions:	Not flammable.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	High temperatures, sparks, open flames and all other sources of ignition. Decomposes at 600 °C. (3) Minimize air borne spreading of dust. Avoid moisture contamination. Clean up immediately to eliminate slipping hazard.
Materials to Avoid:	Acids. Strong oxidizers. Oxidizers may cause strong exothermic reaction. Sulphur dioxide can be released if sodium sulphite is used improperly in acidic conditions. Sulphur dioxide is toxic and can cause death in extreme cases, eg: if the gas is released into a poorly ventilated area. (3) Combustibles. Organic materials. Nitrates. nitrites
Decomposition or Combustion Products:	Thermal decomposition products are toxic and may include Sulfur dioxide, oxides of sodium and irritating gases.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:

SUBSTANCE	LD50 (Oral, Rat)	LD50 (Dermal, Rabbit)	LC50 (Inhalation, Rat, 4h)
Sodium Sulphite	3 560 - 5 660 mg/kg (3)	> 16 000 mg/kg (3)	---
Sodium Sulphate	7 070 mg/kg (3)	> 4 000 mg/kg (3)	---
Carcinogenicity Data:	The ingredient(s) of this product is (are) not classed as carcinogenic by ACGIH, IARC, OSHA or NTP.		
Reproductive Data:	No adverse reproductive effects are anticipated.		
Mutagenicity Data:	Sodium Sulphite may cause mutagenic effects based on studies in laboratory animals. (3)		
Teratogenicity Data:	No adverse teratogenic effects are anticipated.		
Respiratory / Skin Sensitization Data:	Sodium Sulphite may cause respiratory sensitization or other allergic responses. Sensitization is the process whereby a biological change occurs in the individual because of previous exposure to a substance and, as a result, the individual reacts more strongly when subsequently exposed to the substance. In an industrial setting, the common routes of sensitization, inhalation and skin contact, are addressed by WHMIS. However, sensitization by ingestion is not specifically considered by WHMIS.		
Synergistic Materials:	None known.		
Other Studies Relevant to Material:	Sulphite-sensitive people who inhale or ingest this product may experience severe allergic reaction. May causes severe or deadly allergic reactions if inhaled or in some asthmatics and sulphide sensitive individuals. (3) Possible signs and symptoms of allergic reaction include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure and anaphylaxis. (3)		

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Harmful to aquatic life at low concentrations. Sodium Sulphite: 96-hour LC50 (Leucisus idus) = 220 to 460 mg/L. (3) Fish toxicity: 96-hour TLm = 789,000 ppb (Benthic Invertebrae). (3)
Environmental Fate:	Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. Chemical Oxygen Demand (COD): 125 Kg/M3. (3)

13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals:	Neutralize carefully with weak acid to a pH of 6 to 9. Dissolve and oxidize to sulphate with weak (3 - 5 %) hydrogen peroxide. Sulphur dioxide may be released during neutralization. Effervescence may result. Neutralization may be exothermic. Flush spill area with water.
Waste Disposal Methods:	This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.
Safe Handling of Residues:	See Section 13, "Deactivating Chemicals". See "Waste Disposal Methods".
Disposal of Packaging:	Empty containers retain product residue and can be hazardous. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. Do not expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Treat package in the same manner as the product. Dispose of waste material at an approved landfill site in accordance with applicable local, provincial and federal regulations.

14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT SHIPPING DESCRIPTION:

This product is not regulated by TDG.
Label(s): Not applicable. Placard: Not applicable.
ERAP Index: ----. Exemptions: None known.

US DOT CLASSIFICATION (49CFR 172.101, 172.102):

This product is not regulated by DOT.
Label(s): Not applicable. Placard: Not applicable.
CERCLA-RQ: Not available. Exemptions: None known.

15. REGULATORY INFORMATION

CANADA

CEPA - NSNR: All constituents of this product are included on the DSL.
CEPA - NPRI: Not included.
CANADIAN FOOD AND DRUG ACT/REGULATIONS: The use of this material/product as a food additive is regulated by Health and Welfare Canada in the Food and Drug Act and the Food and Drug Regulations. It is incumbent on the user of this material/product to ensure any intended food application is consistent with Health and Welfare Canada guidelines. Food Grade designation in no way implies that the product is safe for consumption by humans. (3)
Controlled Products Regulations Classification (WHMIS):
D-2A: Very Toxic (respiratory sensitizer)

USA

Environmental Protection Act: All constituents of this product are included on the TSCA inventory.
OSHA HCS (29CFR 1910.1200): Respiratory Sensitizer.
U.S. FOOD AND DRUG ADMINISTRATION: This material/product is regulated for use by the US FDA. It is incumbent on the user of this material/product to ensure any intended food application is consistent with US FDA guidelines. Food Grade designation in no way implies that the product is safe for consumption by humans. (3)
NFPA: Health, Fire, Reactivity (Not available.)
HMIS: 2 Health, 0 Fire, 1 Reactivity (3)

INTERNATIONAL

The following component or components of this product appear on the European Inventory of Existing Commercial Chemical Substances: Sodium Sulphite.

16. OTHER INFORMATION

REFERENCES

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1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
 2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA,B,C, John Wiley and Sons, New York, 1981.
 3. Supplier's Material Safety Data Sheet(s)
 4. CHEMINFO, through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
 5. Guide to Occupational Exposure Values, 2005, American Conference of Governmental Industrial Hygienists, Cincinnati, 2005.
 6. Regulatory Affairs Group, Brenntag Canada Inc.
 7. The British Columbia Drug and Poison Information Centre, Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.
 8. NFPA 325M Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids, 1994 Edition, Quincy, MA, 1994.
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