

Sodium sulfite

sc-203406



The Power is Question

Material Safety Data Sheet

Hazard Alert Code Key: **EXTREME** **HIGH** **MODERATE** **LOW**

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Sodium sulfite

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

EMERGENCY

ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

Na₂SO₃, "anhydrous sodium sulphite", "anhydrous sodium sulfite", "disodium sulphite", "disodium sulfite", "exiccated sodium sulphite", "exiccated sodium sulfite", Sulftech, "sulphurous acid, sodium salt (1:2)", "sulfurous acid, sodium salt (1:2)", "sodium sulphite hydrated", "sodium sulfite hydrated", "sodium sulphite heptahydrate", "disodium sulphite heptahydrate", "disodium sulfite heptahydrate", AR0000509, PHOT00005917, TECH00004252, UL00000512

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	0	
Toxicity:	2	
Body Contact:	2	
Reactivity:	1	
Chronic:	2	

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4



CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Harmful if swallowed.
Contact with acids liberates toxic gas.
Possible risk of irreversible effects.
Irritating to eyes, respiratory system and skin.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
 - Ingestion of sulfite salts may cause gastric irritation.
- Large doses may produce violent colic, diarrhea, circulatory disturbance, depression of vital functions and, sometimes, death.

EYE

- This material can cause eye irritation and damage in some persons.

SKIN

- This material can cause inflammation of the skin on contact in some persons.
 - The material may accentuate any pre-existing dermatitis condition.
 - Open cuts, abraded or irritated skin should not be exposed to this material.
 - Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
- Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

- The material can cause respiratory irritation in some persons.
- The body's response to such irritation can cause further lung damage.
- The material is not thought to produce respiratory irritation (as classified using animal models).
- Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
- Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.
 - Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
 - Sulfur dioxide irritation probably results from the action of sulfurous acid as the highly soluble gas dissolves in mucous fluid.
- Short-term exposure causes bronchoconstriction measurable as an increase in flow-resistance.

CHRONIC HEALTH EFFECTS

■ Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure. Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis of appropriate studies using mammalian somatic cells in vivo. Such findings are often supported by positive results from in vitro mutagenicity studies.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Repeated exposure of animals to airborne sulfur dioxide (SO₂) can produce a thickening of the mucous layer in the trachea and an increase in goblet cells and mucous glands similar to pathological changes found in chronic human bronchitis.

Chronic exposure to sulfur dioxide (SO₂) particulate complexes, present in polluted air, have been associated with the aggravation of chronic cardiovascular diseases such as asthma, chronic pulmonary disease, and coronary artery disease (this may occur at levels of 6-10 ug/m³ for 24 hours). An association exists between persistent cough and sputum production, particularly in women and non-smokers. A 10-year follow study on workers exposed to a mean sulfur dioxide concentration of up to 33 ppm did not reveal an increased prevalence of chronic respiratory disease or decreased pulmonary function.

By contrast, studies of smelter workers, exposed to concentrations below 2 ppm, suggest that chronic respiratory disease may develop and that workers exposed at concentrations exceeding 1 ppm show accelerated loss of pulmonary function.

Although SO₂ is not a carcinogen, the apparent increases in mortalities amongst arsenic-exposed smelter workers was greater when exposures included both high arsenic concentrations and moderate to high SO₂ exposures, suggesting that SO₂ might act as a promoter.

Intermittent exposure of rats to benz[a]pyrene along with inhalation of SO₂ at 4-10 ppm, 1-6 hours per day, 5 days per week, produced substantial increases in respiratory tract squamous cell carcinomas compared to that associated with exposure to B[a]P or SO₂ alone.

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

Sulfites and bisulfites can cause narrowing of the airways, stomach upset, flushing, low blood pressure, tingling sensation, itchy wheal, swelling and shock, and asthmatics are especially prone.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium sulfite	7757-83-7	> 95

hydrolyses to

[sulfur dioxide](#)

7446-09-5

Section 4 - FIRST AID MEASURES

SWALLOWED

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. · Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

EYE

■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN

■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested. Inhalation of vapors or aerosols (mists, fumes) may cause lung edema. Corrosive substances may cause lung damage (e.g.

NOTES TO PHYSICIAN

■ for poisons (where specific treatment regime is absent):

-----BASIC TREATMENT

· Establish a patent airway with suction where necessary.
· Watch for signs of respiratory insufficiency and assist ventilation as necessary.
Treat symptomatically.

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung edema often do not manifest until a few hours have passed and they are aggravated by physical effort.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Not available.
Upper Explosive Limit (%):	Not applicable
Specific Gravity (water=1):	2.63 (anhydrous)
Lower Explosive Limit (%):	Not applicable

EXTINGUISHING MEDIA

· There is no restriction on the type of extinguisher which may be used.
Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

· Alert Emergency Responders and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves for fire only.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

· Non combustible.
· Not considered to be a significant fire risk, however containers may burn.
Decomposition may produce toxic fumes of: sulfur oxides (SO_x), metal oxides.
May emit poisonous fumes.
May emit corrosive fumes.

FIRE INCOMPATIBILITY

■ None known.

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:
Respirator:
Type E-P Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

· Remove all ignition sources.
· Clean up all spills immediately.
· Avoid contact with skin and eyes.
· Control personal contact by using protective equipment.
· Use dry clean up procedures and avoid generating dust.
· Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- Moderate hazard.
- CAUTION: Advise personnel in area.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

RECOMMENDED STORAGE METHODS

- Glass container.
- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Canada - British Columbia Occupational Exposure Limits	sodium sulfite (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC))		10 (N)						
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	sodium sulfite (Particulates not otherwise regulated (PNOR)(f)-Respirable fraction)		5						
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	sodium sulfite (Particulates not otherwise regulated Respirable fraction)		5						
US - California Permissible Exposure Limits for Chemical Contaminants	sodium sulfite (Particulates not otherwise regulated Respirable fraction)		5						(n)
US - Oregon Permissible Exposure Limits (Z-1)	sodium sulfite (Particulates not otherwise regulated (PNOR) (f) Total Dust)	-	10						Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means "particles not otherwise regulated."

US - Michigan Exposure Limits for Air Contaminants	sodium sulfite (Particulates not otherwise regulated, Respirable dust)		5			
Canada - Prince Edward Island Occupational Exposure Limits	sodium sulfite (Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles)		10			See Appendix B current TLV/BEI Book
US - Oregon Permissible Exposure Limits (Z-1)	sodium sulfite (Particulates not otherwise regulated (PNOR) (f) Respirable Fraction)	-	5			Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means "particles not otherwise regulated."
Canada - Ontario Occupational Exposure Limits	sulfur dioxide (Sulfur dioxide)	2		5		
Canada - Ontario Occupational Exposure Limits	sulfur dioxide (Sulfur dioxide)		5.2		10.4	
US - Minnesota Permissible Exposure Limits (PELs)	sulfur dioxide (Sulfur dioxide)	2	5	5	13	
Canada - British Columbia Occupational Exposure Limits	sulfur dioxide (Sulfur dioxide)	2		5		
US ACGIH Threshold Limit Values (TLV)	sulfur dioxide (Sulfur dioxide)			0.25		TLV Basis: pulmonary function; lower respiratory tract irritation
US NIOSH Recommended Exposure Limits (RELs)	sulfur dioxide (Sulfur dioxide)	2	5	5	13	
Canada - Alberta Occupational Exposure Limits	sulfur dioxide (Sulphur dioxide)	2	5.2	5	13	
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	sulfur dioxide (Sulfur dioxide)	2	5	5	10	
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	sulfur dioxide (Sulfur dioxide)	5	13			

US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	sulfur dioxide (Sulfur dioxide)	2	5	5	10
US - Idaho - Limits for Air Contaminants	sulfur dioxide (Sulfur dioxide)	5	13		
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)	sulfur dioxide (SULFUR DIOXIDE)	0.01			
US - California Permissible Exposure Limits for Chemical Contaminants	sulfur dioxide (Sulfur dioxide)	2	5	5	10
US - Hawaii Air Contaminant Limits	sulfur dioxide (Sulfur dioxide)	2	5	5	10
US - Alaska Limits for Air Contaminants	sulfur dioxide (Sulfur dioxide)	2	5	5	10
US - Michigan Exposure Limits for Air Contaminants	sulfur dioxide (Sulfur dioxide)	2	5	5	10
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	sulfur dioxide (Sulphur dioxide)	2		5	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	sulfur dioxide (Sulphur dioxide)	5	13	5	13
Canada - Yukon Carcinogens with a Permitted Exposure	sulfur dioxide (Arsenic trioxide production - (SO) ₂)	C5			
US - Washington Permissible exposure limits of air contaminants	sulfur dioxide (Sulfur dioxide)	2		5	
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	sulfur dioxide (Sulfur dioxide)	5	13		
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	sulfur dioxide (Sulfur dioxide)	2	5.2	5	13
US OSHA Permissible Exposure Levels (PELs) - Table Z1	sulfur dioxide (Sulfur dioxide)	5	13		

Canada - Prince Edward Island Occupational Exposure Limits	sulfur dioxide (Sulfur dioxide)			0.25			TLV Basis: pulmonary function; lower respiratory tract irritation
US - Oregon Permissible Exposure Limits (Z-1)	sulfur dioxide (Sulfur dioxide)	5	13				
Canada - Northwest Territories Occupational Exposure Limits (English)	sulfur dioxide (Sulphur dioxide)	2	5	5	13		
Canada - Nova Scotia Occupational Exposure Limits	sulfur dioxide (Sulfur dioxide)			0.25			TLV Basis: pulmonary function; lower respiratory tract irritation

ENDOELTABLE

PERSONAL PROTECTION



RESPIRATOR

Type E-P Filter of sufficient capacity
Consult your EHS staff for recommendations

EYE

- Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

■ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

· Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

ENGINEERING CONTROLS

■ Local exhaust ventilation usually required. If risk of overexposure exists, wear an approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Contact with acids liberates toxic gas.

State	Divided solid	Molecular Weight	126.1 anhydrous
Melting Range (°F)	Decomposes.	Viscosity	Not Applicable
Boiling Range (°F)	Decomposes.	Solubility in water (g/L)	Reacts
Flash Point (°F)	Not applicable	pH (1% solution)	9.6-9.8
Decomposition Temp (°F)	302	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not applicable	Vapour Pressure (mmHG)	Not available.
Upper Explosive Limit (%)	Not applicable	Specific Gravity (water=1)	2.63 (anhydrous)
Lower Explosive Limit (%)	Not applicable	Relative Vapor Density (air=1)	>1
Volatile Component (%vol)	Not available.	Evaporation Rate	Not applicable

APPEARANCE

Odourless, small white crystals or powder with saline sulfurous taste. Soluble in water and glycerol; almost insoluble in alcohol. A reducing agent. Exists in anhydrous form and as heptahydrate.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

STORAGE INCOMPATIBILITY

■ Sulfites and hydrosulfites (dithionites) :

- may react explosively with strong oxidising agents.
 - react with water or steam to produce corrosive acid solutions and sulfur oxide fumes - aqueous solutions are incompatible with oxidisers, strong acids, alkalis, ammonia, aliphatic amines, alkanolamines, alkylene oxides, amides, epichlorohydrin, organic anhydrides, isocyanates, nitromethane, vinyl acetate
 - aqueous solutions attack metals in presence of moisture
 - generate gaseous sulfur dioxide in contact with oxidising and nonoxidising acids.
- Sulfur dioxide:
- reacts with water or steam forming sulfurous acid; reaction may be violent
 - reacts with acrolein, alcohols, aluminium powder, alkali metals, amines, bromine, pentafluoride, caustics, caesium, acetylene carbide, chlorates, chlorine trifluoride, chromium powder, copper or its alloy powders, diethylzinc, fluorine, lead dioxide, lithium acetylene carbide, metal powders, monolithium acetylide-ammonia, nitril chloride, potassium acetylene carbide, potassium acetylide, potassium chlorate, rubidium carbide, silver azide, sodium, sodium acetylide, stannous oxide; reaction may be violent
 - decomposes above 60 deg. C releasing oxides of sulfur
 - Incompatible with alkalis, alkylene oxides, ammonia, aliphatic amines, alkanolamines, amides, organic anhydrides, caesium monoxide, epichlorohydrin, ferrous oxide, halogens, interhalogens, isocyanates, lithium nitrate, manganese, metal acetylides, metal oxides, perbromyl fluoride, red phosphorus, potassium azide, rubidium acetylide, sodium hydride, sulfuric acid
 - attacks some plastics, coatings and rubber
 - attacks metals, especially chemically active metals, in the presence of moisture.
 - Contact with acids produces toxic fumes.

Segregate from alcohol, water.

- Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.
- These trifluorides are hypergolic oxidisers. They ignite on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition.
- The state of subdivision may affect the results.
- Inorganic reducing agents react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.
- Incidents involving interaction of active oxidants and reducing agents, either by design or accident, are usually very energetic and examples of so-called redox reactions.
- NOTE: May develop pressure in containers; open carefully. Vent periodically.

Reacts with water, steam, or acids, forming corrosive acid solution and sulfur dioxide.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

sodium sulfite

TOXICITY AND IRRITATION

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic

condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

SODIUM SULFITE:

TOXICITY IRRITATION

Oral (mouse) LD50: 820 mg/kg Nil Reported

■ **The substance is classified by IARC as Group 3:**

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

TOXICITY IRRITATION

SULFUR DIOXIDE:

Inhalation (rat) LC50: 2520 ppm/1h

Nil Reported

Inhalation (human) LCLo: 1000 ppm/10m

Inhalation (human) TCLo: 3 ppm/5d

■ The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

400-500 ppm - immediately dangerous to life.

NOTE: Aggravates chronic pulmonary disease and increases the risk of acute

and chronic respiratory disease - condition aggravated by smoking.

CARCINOGEN

US - Rhode Island Hazardous Substance List IARC

Section 12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
sulfur dioxide	LOW		LOW	HIGH

GESAMP/EHS COMPOSITE LIST - GESAMP Hazard Profiles

Name / EHS TRN A1a A1b A1 A2 B1 B2 C1 C2 C3 D1 D2 D3 E1 E2 E3 Cas No / RTECS No _____
 _____ Sodium 9 664 Ino 0 0 Ino 2 Ni 0 (0) (1) 0 1 D 1 sulphite rg rg (solution) / CAS:7757- 83- 7 /

Legend: EHS=EHS Number (EHS=GESAMP Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships) NRT=Net Register Tonnage, A1a=Bioaccumulation log Pow, A1b=Bioaccumulation BCF, A1=Bioaccumulation, A2=Biodegradation, B1=Acuteaquatic toxicity LC/ECIC50 (mg/l), B2=Chronic aquatic toxicity NOEC (mg/l), C1=Acute mammalian oral toxicity LD50 (mg/kg), C2=Acute mammalian dermal toxicity LD50 (mg/kg), C3=Acute mammalian inhalation toxicity LC50 (mg/kg), D1=Skin irritation & corrosion, D2=Eye irritation & corrosion, D3=Long-term health effects, E1=Tainting, E2=Physical effects on wildlife & benthic habitats, E3=Interference with coastal amenities, For column A2: R=Readily biodegradable, NR=Not readily biodegradable. For column D3: C=Carcinogen, M=Mutagenic, R=Reprotoxic, S=Sensitising, A=Aspiration hazard, T=Target organ systemic toxicity, L=Lunginjury, N=Neurotoxic, I=Immunotoxic. For column E1: NT=Not tainting (tested), T=Tainting test positive. For column E2: Fp=Persistent floater, F=Floater, S=Sinking substances. The numerical scales start from 0 (no hazard), while higher numbers reflect increasing hazard. (GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships)

Section 13 - DISPOSAL CONSIDERATIONS

US EPA Waste Number & Descriptions

A. General Product Information

Reactivity characteristic: use EPA hazardous waste number D003 (waste code R).

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

‡ Puncture containers to prevent re-use and bury at an authorized landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult Waste Management Authority for disposal.

Section 14 - TRANSPORTATION INFORMATION

■ Air transport may be forbidden if this material is flammable, corrosive or toxic gases may be released under normal conditions of transport.

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

sodium sulfite (CAS: 7757-83-7,10102-15-5) is found on the following regulatory lists;

"Canada Domestic Substances List (DSL)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals", "US Cosmetic Ingredient Review (CIR) Cosmetic ingredients found safe as used", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US FDA Direct Food Substances Generally Recognized as Safe", "US Food Additive Database", "US Toxic Substances Control Act (TSCA) - Inventory"

Regulations for ingredients

sulfur dioxide (CAS: 7446-09-5) is found on the following regulatory lists;

"Canada - Alberta Ambient Air Quality Objectives", "Canada - Alberta Occupational Exposure Limits", "Canada - British Columbia Occupational Exposure Limits", "Canada - Northwest Territories Occupational Exposure Limits (English)", "Canada - Nova Scotia Occupational Exposure Limits", "Canada - Ontario Occupational Exposure Limits", "Canada - Prince Edward Island Occupational Exposure Limits", "Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens", "Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)", "Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits", "Canada - Yukon Carcinogens with a Permitted Exposure", "Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances", "Canada Domestic Substances List (DSL)", "Canada Environmental Protection Act (CEPA) 1999 - Schedule 1 Toxic Substances List", "Canada Environmental Quality Guidelines (EQGs) Air", "Canada Ingredient Disclosure List (SOR/88-64)", "Canada National Pollutant Release Inventory (NPRI)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD Representative List of High Production Volume (HPV) Chemicals", "US - Alaska Limits for Air Contaminants", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)", "US - California Permissible Exposure Limits for Chemical Contaminants", "US - Hawaii Air Contaminant Limits", "US - Idaho - Limits for Air Contaminants", "US - Massachusetts Oil & Hazardous Material List", "US - Michigan Exposure Limits for Air Contaminants", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - New Jersey Right to Know Hazardous Substances", "US - Oregon Hazardous Materials", "US - Oregon Permissible Exposure Limits (Z-1)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants", "US - Washington Permissible exposure limits of air contaminants", "US - Wyoming List of Highly Hazardous Chemicals, Toxics and Reactives", "US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants", "US ACGIH Threshold Limit Values (TLV)", "US ACGIH Threshold Limit Values (TLV) - Carcinogens", "US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)", "US Department of Homeland Security Chemical Facility Anti-Terrorism Standards - Chemicals of Interest", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA Acute Exposure Guideline Levels (AEGs) - Final", "US EPA High Production Volume Chemicals Additional List", "US FDA Direct Food Substances Generally Recognized as Safe", "US Food Additive Database", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US NFPA 45 Fire Protection for Laboratories Using Chemicals - Flammability Characteristics of Common Compressed and Liquefied Gases", "US NIOSH Recommended Exposure Limits (RELs)", "US OSHA List of Highly Hazardous Chemicals, Toxics and Reactives", "US OSHA Permissible Exposure Levels (PELs) - Table Z1", "US SARA Section 302 Extremely Hazardous Substances", "US Toxic Substances Control Act (TSCA) - Inventory", "USA: Chemical Facility Anti-Terrorism Standards - List Appendix A - 6CFR 27"

Section 16 - OTHER INFORMATION

Ingredients with multiple CAS Nos

Ingredient Name CAS sodium sulfite 7757-83-7, 10102-15-5

Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no

representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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