Safety Data Sheet

Section 01 Identification

Product Identifier	Sodium Bisulphite 38% Solution, Catalyzed
Other Means of Identification	Sodium hydrogensulphite
Product Use and Restrictions on Use	Antioxidant, bleaching and disinfectant agent in textile, laundering, paper, and fermentation industries. Production of sulphur dioxide. Dechlorination.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7 Phone: 800.387.7503 Fax: 888.281.8109 www.cleartech.ca
Prepared By	ClearTech Industries Inc. technical writer
24-Hour Emergency Phone	306.664.2522

Section 02 Hazard Identification

Physical Hazards

Corrosive to metals	Category 1

Health Hazards

Serious eye damage / eye irritation	Category 1
Carcinogenicity	Category 1B

Signal Word

Danger

Hazard Statements

H290 May be corrosive to metals.

H318 Causes serious eye damage.

H350 May cause cancer by inhalation.

Pictograms

Precautionary Statements

Prevention

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P234 Keep only in original packaging.

P264 Wash affected body parts thoroughly after handling.

P280 Wear protective gloves, protective clothingeye protection, face protection

Response

P305 P351 P338 P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

P308 P313 IF exposed or concerned: Get medical advice or attention.

P390 Absorb spillage to prevent material damage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.

Hazards Not Otherwise Classified

Contact with acids liberates toxic gas. This product contains Cobalt Sulphate below classified levels (0.1%). Cobalt Sulphate is a respiratory and skin sensitizer, carcinogen, and may cause damage to fertility.

Supplemental Information

Not available

Section 03 Composition / Information on Ingredients

Hazardous Ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Sulfurous acid, monosodium salt	Sodium bisulphite	7631-90-5	38-40%
Cobalt Sulphate	Not available	10124-43-3	0.01-0.1%

Section 04 First-Aid Measures

Description of necessary first-aid measures

Inhalation If exposed or concerned: Get medical advice / attention.

Ingestion If exposed or concerned: Get medical advice / attention.

Skin contact Rinse skin with lukewarm, gently flowing water / shower for 5 minutes or until product is removed. If skin irritation occurs or if you feel unwell: Get medical advice / attention. If exposed or concerned: Get medical advice / attention.

Eye contact Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

Most important symptoms and effects, both acute and delayed

Inhalation Contact with acids, heat or sunlight realeases sulphur dioxide, which causes serious respiratory irritation and is toxic if inhaled. May cause cancer by inhaltion.

Ingestion This product may provoke a response in those who are sensitive to sulphites.

Skin contact This product may provoke a response in those who are sensitive to sulphites.

Eye contact	Causes serious eye damage.
Further information	For further information see Section 11 Toxicological Information.

Section 05 Fire Fighting Measures

Suitable extinguishing media	Extinguish fire using extinguishing agents suitable for the surrounding fire.
Unsuitable extinguishing media	Water jets are not recommended in fires involving chemicals.
Specific hazards arising from the chemical	In the event of a fire oxides of sulphur may be released. Thermal decomposition occurs at 150 °C.
Special protective equipment for fire-fighters	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

Section 06 Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area. Do not use material handling equipment with exposed metal surfaces.
Environmental Precautions	Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Stop or reduce leak if safe to do so. Clean up spill with non-reactive absorbent and place in suitable, covered, labeled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product. Use vented containers to avoid pressure buildup. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 07 Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible. Do not transfer to metal containers.
Incompatibilities	Acids, such as sulphuric, nitric, hydrochloric, phosphoric, flurosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids, hypochlorites and permanganates. Metals, such as aluminum, steel, and brass. Exposure to air accelerates decomposition.

Section 08 Exposure Controls and Personal Protection

Exposure limits

Component	Regulation	Type of listing	Value
Cobalt and inorganic compounds, as Co, Total	ACGIH	TWA	0.02 mg/m³

Component	Regulation	Type of listing	Value
Sulphur dioxide	ACGIH	TLV	5 ppm
	ACGIH	STEL	2 ppm

Engineering controls

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	A soak hose and eyewash station or emergency shower and eyewash station should be available, tested, and be in close proximity to the product being handled in accordance with provincial regulations.

Protective equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

Eye and face protection	Where there is potential eye or face exposure, tightly fitting safety goggles and a face shield or a full face respirator or similar protective equipment which protects the wearer's face and eyes are recommended. Contact lenses are not recommended; they may contribute to severe eye injury.
Hand and body protection	Where handling this product it is recommended that skin contact is avoided. Disposable latex or nitrile gloves are recommended to prevent incidental contact. Butyl rubber, neoprene, or PVC skin protection is recommended for extended contact. Leather gloves are not recommended for chemical protection. Refer to manufacturer's specifications for breakthrough times and permeability information; note that breakthrough times and permeability vary with temperature, application and age of material. Continued use of contaminated safety gear or clothing is not recommended; wash before reuse or discard.
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Thermal hazards	Not available

Section 09 Physical and Chemical Properties

Appearance

Physical state	Liquid
Colour	Clear, colourless to pale yellow
Odour	Pungent; sulphurous
Odour threshold	Not available

Property

pH	4.0-5.3
Melting point / freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not available
Evaporation rate	Not available
Flammability	Not applicable
Upper flammable limit	Not available

Lower flammable limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not applicable
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	150 °C
Viscosity	Not available
Specific gravity	~1.34 g/mL
Particle characteristics	Not applicable
Formula	$NaHSO_3$
Molecular weight	104.06 g/mol

Section 10 Stability and Reactivity

Reactivity	May be corrosive to metals. Reacts with acids to form toxic and corrosive sulphur dioxide.
Stability	This product is stable if stored according to the recommendations in Section 07. Exposure to sunlight or high temperatures may cause the degradation of this product over time.
Possibility of hazardous reactions	Hazardous polymerization is not known to occur.
Conditions to avoid	Avoid contact with incompatible materials. Do not heat.
Incompatible materials	Acids, such as sulphuric, nitric, hydrochloric, phosphoric, flurosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids, hypochlorites and permanganates. Metals, such as aluminum, steel, and brass. Exposure to air accelerates decomposition.
Hazardous decomposition products	Thermal decomposition may produce oxides of sulphur. Thermal decomposition occurs at 150 °C.

Section 11 Toxicological Information

Acute Toxicity (LD50 / LC50 values)

Component	Route	Species	Value	Exposure time
Acute toxicity estimate	Oral	Rat	3206 mg/kg	
	Dermal	Rat	>5000 mg/kg	

Toxic Health Effect Summary

Chemical characteristics	This product is a moderate reducing agent.
Skin	This product may provoke a response in those who are sensitive to sulphites.
Ingestion	This product may provoke a response in those who are sensitive to sulphites.
Inhalation	Contact with acids, heat or sunlight realeases sulphur dioxide, which causes serious respiratory irritation and is toxic if inhaled. May cause cancer by inhaltion.

Eye contact	Causes serious eye damage.
Sensitization	This product may provoke a response in those who are sensitive to sulphites. Sodium metabisulphite was not found to be sensitizing in the standard skin sensitization test.
Mutagenicity	This product and its components at their listed concentration have no known mutagenic effects.
Carcinogenicity	NTP has classified cobalt compounds as: Reasonably anticipated to be a human carcinogen. ACGIH has classified cobalt compounds as category A3 - Confirmed animal carcinogen with unknown relevance to humans. IARC has classified cobalt compounds as group 2B, possibly carcinogenic to humans.
Reproductive toxicity	Studies on rats exposed to cobalt componds are associated with testicular atrophy
Specific organ toxicity	This product and its components at their listed concentration have no known effects on specific organs.
Aspiration hazard	Not available
Synergistic materials	Not available

Section 12 Ecological Information

Ecotoxicity

Component	Type	Species	Value	Exposure Time
Acute toxicity estimate	EC50	Daphnia	245 mg/L	48 hours
	LC50	Fish	89 mg/L	96 hours
	EC50	Algae	137 mg/L	72 hours

Biodegradability	The domestic substance list categorizes sodium metabisulphite and cobalt sulphate as persistent.
Bioaccumulation	The domestic substance list categorizes sodium metabisulphite and cobalt sulphate as non-bioaccumulative.
Mobility	This product is water soluble, is not predicted to adsorb to soil and may contaminate ground water.
Other adverse effects	The domestic substance list categorizes cobalt sulphate as inherently toxic to aquatic organisms. Chemical oxygen demand (COD): 59 mg/g

Section 13 Disposal Considerations

Waste From Residues / Unused Products	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

Section 14 Transport Information

UN number	UN2693
UN proper shipping name and description	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (Sodium Bisulphite)
Transport hazard class(es)	8
Packing group	III
Excepted quantities	5 L

Environmental hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special precautions	16 (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks).
Transport in bulk	ERAP index: not available MARPOL 73/78 and IBC Code: This product is not listed in Chapter 17 of the IBC Code.
Additional information	Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

Section 15 Regulatory Information.

NOTE: THE PRODUCT LISTED ON THIS SAFETY DATA SHEET HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN HAZARDOUS PRODUCTS REGULATIONS. THIS SAFETY DATA SHEET CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

All components of this product appear on the domestic substance list.

Cobalt and its compounds are listed in the National Pollutant Release Inventory (NPRI). Reporting threshold: 50 kg manufactured, processed or otherwise used. This product is below reportable threshold (0.1%)

Cobalt and soluble cobalt compounds are in the List of Toxic Substances, Schedule 1, under the Canadian Environmental Protection Act.

Section 16 Other Information

Date of latest revision: November 17, 2022

Note: The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) TOXNET
3) eChemPortal
4) ECHA

5) Transportation of Dangerous Goods Canada
6) HSDB
7) PAN