Safety Data Sheet

Section 01 - Product And Company Identification

Product Identifier	Sodium Thiosulphate
Other Means of Identification	Sodium Thiosulphate anhydrous, sodium hyposuphite, sodium Thiosulphate crystal, thiosuphuric acid disodium salt, and disodium Thiosulphate.
Product Use and Restrictions on Use	Bleaching agent, an ingredient in photographic fixer solutions, for extraction of silver from ores, as a mordant in dyeing and printing textiles, reducers in chrome dyeing, in leather manufacture and a reagent in analytical and organic chemistry. Antidote for cyanide poisoning.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

This product has been assessed in accordance with the Hazardous Products Regulations and is not classified as a hazardous substance or mixture.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Sodium Thiosulphate	7772-98-7	>98%	
Water	7732-18-5	<2%	

Section 04 - First Aid Measures

Inhalation	If symptoms are experienced, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
Skin Contact / Absorption	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
Eye Contact	Contact lenses should never be worn when working with this product. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek medical attention if irritation occurs or persists.
Ingestion	If swallowed do not induce vomiting. If vomiting occurs, lean patient forward or place on left side with head down to maintain open airway and prevent aspiration. Do not give water to patient becoming unconscious. If conscious then rinse out mouth with water and slowly drink water.
Additional Information	Physician to treat symptomatically.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Product does not burn. Use extinguishing agents compatible with sodium thiosulphate and appropriate for surrounding fire.
Unsuitable Extinguishing Media	Not Available
Specific Hazards Arising From the Chemical	Decomposes slowly in water and may release very toxic and extremely flammable hydrogen sulfide gas as well as corrosive substances such as hydrogen sulfite and sulfuric acid. Under fire conditions or when heated, soium thiosulfate gives off hydrogen sulfide, sulfur dioxide and trioxide, pyrosulfate, sodium pentasulfide, sodium sulfide, and sodium oxides. Containers may rupture explosively with a sudden release of large amounts of toxic gases.
Special Protective Equipment and Precautions for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.
Environmental Precautions	Prevent material from entering sewers.
Methods and Materials for Containment and Cleaning Up	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 material to evacuate through the sanitary system.

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.
Conditions for Safe Storage	Store in cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials.
Incompatibilities	Strong oxidizers, acids and water reactive materials.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Sulphur dioxide	OSHA	TWA	5ppm
	ACGIH	TLV	2ppm
	ACGIH	STEL	5ppm

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must 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	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	No specific requirement, but it is good practice to wear safety goggles.
Hand Protection	No specific requirement, but it is good practice to prevent skin contact with the use of gloves.
Skin and Body Protection	No specific requirement, but it is good practice to prevent skin contact. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	If use creates dust formations, then a NIOSH-approved respirator with a dust cartridge is recommended. If sulphur dioxide is evolved, a self-contained breathing apparatus should be used.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Solid granules or crystals
Colour	Clear to white
Odour	No odour
Odour Threshold	Not Applicable

Property

pH	7.8 (10% solution)
Melting Point/Freezing Point	Not Applicable
Initial Boiling Point and Boiling Range	Not Applicable
Flash Point	Not Applicable
Evaporation Rate	Not Applicable
Flammability	Non-flammable. Heating above 100^{o}C yields flammable residue, sodium sulphide.
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20^{o}C)	Extremely low.
Vapour Density (Air=1)	Not Applicable
Relative Density	Not Available
Solubility(ies)	Very soluble in water (70g/100mL at 20°C). Insoluble in ethanol. Not expected to be soluble in most organic solvents. Solubility increases in very polar solvents such as dimetylsulfoxide.

Partition Coefficient: n-octanol/water	Not Applicable
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	~100°C
Viscosity	Not Applicable
Explosive Properties	Powdered material may form explosive dust-air mixture.
Specific Gravity (Water=1)	2.27
% Volatiles by Volume	Not Applicable
Formula	$Na_2S_2O_3$
Molecular Weight	158.11

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Normally stable. Decomposes on exposure to air or light.
Possibility of Hazardous Reactions	May decompose violently above 223°C. Reacts slowly with water at room temperature. The rate of reaction with water increases as the temperature increases, or when the solutions are highly acidic or highly alkaline.
Conditions to Avoid	Not Available
Incompatible Materials	Strong oxidizers, acids and water reactive materials.
Hazardous Decomposition Products	Thermal decomposition releases very toxic and corrosive substances such as hydrogen sulfide, sulfur dioxide, sulfur trioxide, and other oxides of sulfur; as well as sodium sulfate, sodium sulfide, and sodium pentasulfide. Reaction with water forms sulfur, hydrogen sulfite, and sulfuric acid. Reaction with air forms sodium sulfate and sodium sulfide.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Sodium Thiosulphate	>5000mg/kg (rat)	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Sodium Thiosulphate	Not known to be a carcinogenic.

Skin Corrosion/Irritation	Dust or mist may cause irritation from prolonged contact. Aqueous solutions may cause irritations from repeated or prolonged contact.
Ingestion	Relatively low in acute toxicity but may cause irritation of the gastrointestinal tract and purging if large quantity is ingested.
Inhalation	Breathing product dust or mist may irritate respiratory tract.
Serious Eye Damage/Irritation	Dust, solutions, or mist may irritate or burn the eyes and cause temporary conjunctivitis.

Respiratory or Skin Sensitization	No sensitizing effects known.
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Not Available
STOT-Single Exposure	Swallowing larger amounts may irritate the gastrointestinal tract. May cause respiratory irritation.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Sodium Thiosulphate	Not Available	LC_{50}(Gambusia affinis, 96hr): 24000mg/L	LC_{50}(Daphnia magna, 25hr): 2245mg/L

Biodegradability	Readibly biodegradable.
Bioaccumulation	Not Available
Mobility	Soluble in water.
Other Adverse Effects	Not Available

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	Not Regulated
UN Proper Shipping Name	Not Regulated
Transport Hazard Class(es)	Not Regulated
Packaging Group	Not Regulated
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available
Transport in Bulk	Not Available

TDG

Other	Secure containers (full and/or empty) with suitable hold down devises 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 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

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

Section 16 – Other Information

Preparation Date August 13, 2015

Note: The responsibility to provide a safe workplace remains with the user. The 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 user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) 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) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) PAN
6) HSDB
7) ECHA

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