Safety Data Sheet

Section 01 - Identification

Product Identifier	Borax
Other Means of Identification	Sodium tetraborate, sodium borate, disodium tetraborate
Product Use and Restrictions on Use	Buffer, fire retardant, flux, anit-fungal compound,
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

Serious Eye Damage/Irritation	Category 2B
Reproductive Toxicity	Category 2
Specific Target Organ Toxicity Single Exposure	Category 3

Physical Hazards

No known physical hazards.

Warning

Hazards Statements

H320 – Causes eye irritation.
H361 – Suspected of damaging fertility or the unborn child.
H336 – May cause respiratory irritation.

Pictograms

Precautionary Statements

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood.
P261 – Avoid breathing dust.
P264 – Wash hands thoroughly after handling.
P271 – Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves with eye and face protection.
P304 + P340 – IF INHALAED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P312 – Call a POISON CENTER if you feel unwell.
P337 + P313 – If eye irritation persists: Get medical advice/attention.
P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents and container in accordance with local regulatory requirements.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Sodium Tetraborate Pentahydrate	12179-04-3	>99%	

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 medical attention if difficulty persists.

Skin Contact / Absorption

Remove contaminated clothing. Rinse skin with lukewarm, gently flowing water and non-abrasive soap. Seek medical attention if irritation occurs or persists. Wash clothing before reuse or discard.

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 open to ensure complete irrigation of the eye tissue. Seek immediate medical attention.

Ingestion

Have victim rinse out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Additional Information

Do not use borax to treat burns or lacerations.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media

Borax is non-flammable, use extinguishing media suitable for the surrounding fire.

Unsuitable Extinguishing Media

Not Applicable

Specific Hazards Arising From the Chemical

None known.

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	Vacuum or shovel spilled material and place into disposal container. Dilute residual material with water and discharge as per local, provincial and/or federal regulations permit.

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. Minimise dust generation and avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated place. Keep container tightly closed and away from incompatible materials. Material is hygroscopic, do not store where moisture is present. Storage near strong alkalis must be avoided.
Incompatibilities	Strong reducing agents.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Borax	ACGiH	TLV	10 mg/m^3
	OSHA	PEL	5 mg/m^3

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	Chemical goggles, full-face shield, or a full-face respiratory should be worn at all times when product is being handled. Contact lenses should not be worn as they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber) should be worn. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suits, aprons, and/or coveralls of chemical resistant material should be worn. Wash contaminated clothing and dry thoroughly before reuse.
Respiratory Protection	If dust is being produced, a NIOSH-approved respiratory for dust should be worn.

Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Solid, powder
Colour	White
Odour	Odourless
Odour Threshold	Not Available

Property

pH	9.2 (1% solution)
Melting Point/Freezing Point	741°C
Initial Boiling Point and Boiling Range	1575°C
Flash Point	Not Available
Evaporation Rate	Not Available
Flammability	Non-flammable
Upper Flammable Limit	Not Available
Lower Flammable Limit	Not Available
Vapour Pressure (mm Hg, 20ºC)	Not Available
Vapour Density (Air=1)	Not Applicable
Relative Density	1.72 g/cm^3
Solubility(ies)	47 g/L in 20°C water
Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	Not Available
Decomposition Temperature	Dehydration begins at 60°C, complete at 320°C
Viscosity	Not Available
Explosive Properties	Not Available
Specific Gravity (Water=1)	1.0
% Volatiles by Volume	Not Available
Formula	$Na_2B_4O_7 \cdot 5H_2O$

Molecular Weight	291.30

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Normally stable.
Possibility of Hazardous Reactions	Polymerization does not occur.
Conditions to Avoid	Will dissolve in water to form a weak sulphuric solution.
Incompatible Materials	Incompatible with strong bases, hypochlorites and ammonium compounds.
Hazardous Decomposition Products	Upon decomposition due to extreme heating, oxides of Sulphur may form. Reacts with strong bases to evolve heat. Reacts with hypochlorites to form poisonous chlorine gas.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Sodium bisulphate	2490mg/kg (rat)	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Sodium bisulphate	Not listed as carcinogenic (IARC and ACGIH)

Skin Corrosion/Irritation	Prolonged contact may result in skin irritation such as redness, pain and severe burns.
Ingestion	Small amounts are not likely to cause injury. Large amounts ingested can cause severe burns to the mouth, throat and stomach. Also may cause sore throat, vomiting and diarrhea.
Inhalation	Dust or mist inhalation may irritate nose, throat and lungs and may cause respiratory tract irritation and lung edema.
Serious Eye Damage/Irritation	Corrosive to eyes. Can cause serious eye damage.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Not Available
STOT-Single Exposure	Not Available
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 bisulphate	Not Available	Not Available	LC_{50}(Daphnia magna, 100hr): 105.5mg/L

Biodegradability Material will decompose in soil. No adverse effects have been noticed when applied directly to crops.

Bioaccumulation Low potential for bioaccumulation.

Mobility Highly mobile in soils.

Other Adverse Effects Product dissolves readily in water to form a weak acid, a 0.05% or greater (by weight) solution of this product is very likely to be harmful to aquatic life. Although material will decompose in soil, excessive quantities should not be applied.

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 October 20, 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) HSDB
6) ECHA

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