



Safety Data Sheet

Section 01 - Identification

Product Identifier	Ethylene Diamine Tetraacetic Acid (EDTA)
Other Means of Identification	Edetic acid, Ethylenebisiminodiacetic acid, N,N'-1,2-Ethanediybis(N-(carboxymethyl)glycine), EDTA, Ethylenedinitrilo)tetraacetic acid, Ethylenediamine-N,N,N',N'-tetraacetic acid, 3,6-Bis(carboxymethyl)-3,6-diazaoctanedioic acid, EDTA acid, Ethylenediaminetetraacetic acid, {[2-(Bis-carboxymethyl-amino)-ethyl]-carboxymethyl-amino} acetic acid
Product Use and Restrictions on Use	Chelating agent, sequestering agent, and cleaning the boilers in large scale power plants.
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 2

Physical Hazards

No known physical hazards.

Warning

Hazard Statements

H319 – Causes serious eye irritation.

Pictograms



Precautionary Statements

P264 – Wash hands thoroughly after handling.

P280 – Wear eye protection and face protection.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 – If eye irritation persists: Get medical advice/attention.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Ethylenediamine tetraacetic acid	60-00-4	≥99.0%	
Water	7732-18-5	≤1.0%	

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.
Skin Contact / Absorption	Remove contaminated clothing. Rinse skin with gently flowing, lukewarm, water and non-abrasive soap. Seek medical attention if irritation occurs or persists. Wash contaminated 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 apart to ensure complete irrigation of eye tissue. If irritation persists, seek medical attention.
Ingestion	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Additional Information	Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	EDTA does not burn or burns with difficulty. Use extinguishing media suitable for surrounding fire, dry chemical, CO ₂ , water spray or regular foam. When exposed to fire or excessive heat for a sufficient period of time, edetic acid will decompose causing a rapid build-up of pressure inside closed containers. Containers may rupture explosively with a sudden release of large amounts of toxic and irritating gases.
Unsuitable Extinguishing Media	Not Available
Specific Hazards Arising From the Chemical	Carbon oxides, nitrogen oxides
Special Protective Equipment 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. Prevent material from entering sewers. Flush with water to remove any residue.
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Environmental Precautions	Prevent material from entering sewers.
Methods and Materials for Containment and Cleaning Up	Sweep up and place in container for disposal. Flush with water to remove any residue.

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 a cool place away from heated areas, sparks, and flame. Store in a well-ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe dust. Keep container tightly closed and dry. Manipulate in a well-ventilated area or under an adequate fume hood. Avoid raising dust. Handle and open container with care. Minimize dust generation and exposure - use dust mask or appropriate protection. Do not allow smoking and food consumption while handling.
Incompatibilities	Strong oxidizing agents, strong bases.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Edetic Acid	ACGIH		Not Established

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 respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Crystalline powder
Colour	White
Odour	Odourless
Odour Threshold	Not Available

Property

pH	Approximately 2.5 (1% solution at 23°C)
Melting Point/Freezing Point	Decomposes
Initial Boiling Point and Boiling Range	Not Applicable
Flash Point	Not Available
Evaporation Rate	Negligible at room temperature.
Flammability	May be combustible at high temperatures.
Upper Flammable Limit	Not Available
Lower Flammable Limit	Not Available
Vapour Pressure (mm Hg, 20°C)	Very low
Vapour Density (Air=1)	Not Applicable
Relative Density	Not Available
Solubility(ies)	Practically insoluble in water, 40-50mg/100mL water at 20°C
Partition Coefficient: n-octanol/water	Log P _{OW} = -3.86 (estimated)
Auto-ignition Temperature	>400°C
Decomposition Temperature	220-240°C
Viscosity	Not Applicable
Explosive Properties	Finely dispersed particles form explosive mixtures in air.
Specific Gravity (Water=1)	0.86 at 20°C
% Volatiles by Volume	Not Available
Formula	C ₁₀ H ₁₆ N ₂ O ₈
Molecular Weight	292.28

Section 10 - Stability and Reactivity

Reactivity	Neutralized by alkali metal hydroxides to form a series of water-soluble salts containing from one to four alkali metal cations.
Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	Polymerization does not occur.
Conditions to Avoid	Excess heat, incompatible materials.
Incompatible Materials	Strong oxidizing agent, strong bases
Hazardous Decomposition Products	Carbon oxides, nitrogen oxides.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Ethylenediamine tetraacetic acid	30 mg/kg (mouse)	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component

EDTA

IARC

Not listed as a carcinogen by ACGIH, IARC or NTP.

Skin Corrosion/Irritation	Mild skin irritant
Serious Eye Damage/Irritation	Moderate eye irritant
Ingestion	Harmful if swallowed.
Inhalation	Causes respiratory tract irritation.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	May affect genetic material based on animal data. Mutagenic for some mammalian somatic cells.
Reproductive Toxicity	May cause adverse reproductive effects (fertility and fetotoxicity) and birth defects based on animal data.
STOT-Single Exposure	Causes irritation of the mucous membrane and upper respiratory tract.
STOT-Repeated Exposure	Repeated or prolonged exposure to the substance may damage kidneys.
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
EDTA	Not Available	LC ₅₀ (Lepomis macrochirus, 96hr): 41mg/L	LC ₅₀ (Daphnia magna, 24hr): 625mg/L

Biodegradability	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. The products of degradation are less toxic than the product itself.
Bioaccumulation	An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility	If released to soil, ethylenediamine tetraacetic acid is expected to have moderate mobility based upon an estimated K _{oc} of 313. If released into water, ethylenediamine tetraacetic acid is expected to adsorb to suspended solids and sediment based upon the estimated K _{oc} .
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 devices during shipment and ensure all caps, valves, or closures are secured in the closed position.
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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 7, 2015
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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

ClearTech Industries Inc. - Locations

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