



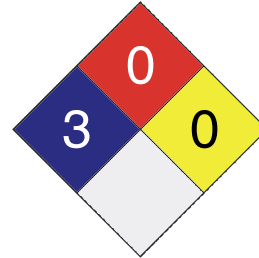
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Metal Free
CAS # Mixture
Product use Deactivates iron, copper, and other trace metals. Prevents stains and water discoloration.
Manufacturer Natural Chemistry, Inc.
40 Richards Ave.
Norwalk, CT 06854 US
Phone: (800) 753-1233
Emergency Phone: CHEMTREC (800) 424-9300

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 3
Flammability	0
Physical Hazard	0
Personal Protection	B



2. Hazards Identification

Emergency overview DANGER
Corrosive to aluminum. CAUSES EYE BURNS. MAY CAUSE SKIN IRRITATION.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Can cause severe eye irritation. Eye contact may result in corneal injury. May cause chemical burns.

Skin Prolonged or repeated skin contact may result in redness, burning sensation or dermatitis.

Inhalation Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).

Ingestion Harmful if swallowed. May cause chemical burns to mouth, throat and stomach. Aspiration of material into lungs can cause chemical pneumonitis.

Target organs Eyes. Respiratory system. Skin.

Chronic effects Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms can include irritation, redness, scratching of the cornea, and tearing.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Tetrasodium ethylenediamine tetraacetate	64-02-8	30 - 60

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

Notes to physician	Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
General advice	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS/OSHA criteria.
Extinguishing media	
Suitable extinguishing media	Dry chemical. Foam. Fog. Carbon dioxide. Water spray.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Ammonia.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
Storage	Keep out of the reach of children. Store in a closed container away from incompatible materials. Do not store in aluminum, carbon steel, copper, copper alloys, zinc or nickel containers.

8. Exposure Controls / Personal Protection

Exposure limits	
Ingredient(s)	Exposure Limits
Tetrasodium ethylenediamine tetraacetate	ACGIH-TLV Not established OSHA-PEL TWA: 15 mg/m3
Engineering controls	General ventilation normally adequate. Local exhaust is suggested for use, where possible, in enclosed or confined spaces.
Personal protective equipment	
Eye / face protection	Wear chemical goggles.
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Avoid breathing mists or vapors.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance	Liquid
Color	Colorless
Form	Liquid
Odor	amine
Odor threshold	Not available
Physical state	Liquid
pH	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	106 °C (222.80 °F)
Flash point	None
Evaporation rate	Not available
Flammability limits in air, lower, % by volume	Not applicable
Flammability limits in air, upper, % by volume	Not applicable
Vapor pressure	As water
Vapor density	As water
Specific gravity	1.26
Octanol/water coefficient	Not available
Solubility (H₂O)	Miscible
Auto-ignition temperature	Not applicable
VOC (Weight %)	Not available
Viscosity	11 m ² /s
Percent volatile	Not available

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals. Reacts violently with acids. This product may react with oxidizing agents.
Incompatible materials	Acids. Oxidizers. Aluminum. Metals.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Ammonia.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects Acute LD50: 5000 mg/kg, Rabbit, Dermal
Acute LD50: 3030 mg/kg, Rat, Oral

Component analysis - LC50

Ingredient(s)	LC50
Tetrasodium ethylenediamine tetraacetate	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Tetrasodium ethylenediamine tetraacetate	1658 mg/kg rat

Effects of acute exposure

Eye	Can cause severe eye irritation. Eye contact may result in corneal injury. May cause chemical burns.
Skin	Prolonged or repeated skin contact may result in redness, burning sensation or dermatitis.

Inhalation	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach. Aspiration of material into lungs can cause chemical pneumonitis.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae Data

Tetrasodium ethylenediamine tetraacetate 64-02-8 72 Hr EC50 Scenedesmus subspicatus: 1.01 mg/L

Ecotoxicity - Freshwater Fish Species Data

Tetrasodium ethylenediamine tetraacetate 64-02-8 96 Hr LC50 Lepomis macrochirus: 41 mg/L [static]; 96 Hr LC50 Pimephales promelas: 59.8 mg/L [static]

Ecotoxicity - Water Flea Data

Tetrasodium ethylenediamine tetraacetate 64-02-8 24 Hr EC50 Daphnia magna: 610 mg/L

Environmental effects	Not available
Aquatic toxicity	Not available
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

Department of Transportation (DOT)
Consumer Commodity ORM-D (Applicable to containers <5L)

Transportation of Dangerous Goods (TDG)
Consumer Commodity (Applicable to containers <5L)

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

US Federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

Occupational Safety and Health Administration (OSHA)
29 CFR 1910.1200 hazardous chemical Yes

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes
Clean Air Act (CAA)	Not available
Clean Water Act (CWA)	Not available
Safe Drinking Water Act (SDWA)	Not available
Drug Enforcement Agency (DEA)	Not available
Food and Drug Administration (FDA)	Not available
WHMIS status	Controlled
WHMIS classification	Class D - Division 2B, Class E - Corrosive Material
WHMIS labeling	



State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Inventory name

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by

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