NORTH Metal and Chemical Co.

1. Company Identification and Product Hazard Overview:

Product Name : Ethylenediaminetetraacetic Acid, Tetrasodium Salt (39% aqueous solution)

Synonyms : EDTA, Tetrasodium EDTA

Recommended Use : Chelating Agent; sequesters metal ions.

Manufactured for : **NORTH Metal and Chemical Company**

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In Case of Emergency: Call CHEMTREC (24H): 1-800-424-9300

2. Hazard Identification:

GHS Classification:
Acute Toxicity, Inhalation (Category 4)
Acute Toxicity, Oral (Category 4)
Skin Corrosion/Irritation (Category 2)
Respiratory Irritation (Category 3)
Eye Damage (Category 2A)
Corrosive to metals (Category 1)
Carcinogenicity (Category 2)
Specific target organ toxicity- Repeated Inhalation (Category 2)

Signal Word: DANGER!
Pictograms: Corrosion, Acute Toxicity, Health Hazard

Hazard Statements:

H290	: May be corrosive to metals
H313	: May be harmful if in contact with skin
H332	: Harmful if inhaled
H302	: Harmful if swallowed
H305	: May be harmful if swallowed and enters airways
H318	: Causes serious eye damage
H335	: May cause respiratory irritation
H351	: Suspected of causing cancer

Precautionary Statements:
Prevention:

P233	: Keep container tightly closed
P261	: Avoid breathing dust/fume/gas/mist/vapors/spray
P264	: Wash contact area thoroughly after handling
P271	: Use only outdoors or in a well-ventilated area
P280	: Wear protective gloves/protective clothing/eye protection/face protection.
P281	: Use personal protective equipment as required

2. Hazard Identification:

Precautionary Statements:

P303 + P361 +P353	**:** IF ON SKIN or hair: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P333 + P313	: IF skin irritation or rash occurs: Get medical advice/attention.
P305 + P351 + P338	**:** IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P330 + P331 +P311	: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON Center or doctor/ physician.
P304 + P340	**:** IF INHALED: Remove person to fresh air and keep in position comfortable for breathing
P332 + P313	: If skin irritation occurs: Get medical advice/attention
P337 + P313	: If eye irritation persists: Get medical advice/attention
P312	**:** Call a POISON CENTER or doctor/physician if you feel unwell
P403 + P235	: Store in a well-ventilated place. Keep cool.
P501	**:** Dispose of contents/container in accordance with local/state/federal regulations.

3. Composition/Information on Ingredient:

Chemical Name **:** Ethylenediaminetetraacetic Acid, Tetrasodium Salt (39% aqueous solution), EDTA

Chemical Family **:** Chelating Agent

Chemical Formula **:** $(NaO\text{-}CO\text{-}CH_2)_2\text{-}N\text{-}CH_2\text{-}N\text{-}(CH2\text{-}CO\text{-}NaO)_2$

Substance:	CAS Number:	Compo. (%)
Water	7732-18-5	56.0%
Tetrasodium ethylenediamine tetraacetate	64-02-8	>= 37.0 - < 39.0%
Sodium hydroxyacetate	2836-32-0	3.0%
Sodium hydroxide	1310-73-2	< 1.6%
Nitrilotriacetate, Trisodium Salt (NTA)	5064-31-3	1.0%

4. First Aid Measures:

General Advice: : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Eyes **:** Flush skin with running water for at least fifteen minutes. Remove any contact lenses. Get medical aid/ attention immediately. Continue to rinse eyes during transport to the hospital.

Skin **:** Remove contaminated clothing. Wash skin with plenty of running water and soap. Take victim immediately to the hospital. Consult a physician.

Ingestion **:** If the product is swallowed, first rinse mouth. Give small amount of water to drink. Call doctor/ physician/poison center immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. If a person vomits, place him/her in recovery position so the vomit does not enter lungs.

Inhalation **:** If safe to do so**,** remove individual from further exposure. Keep warm and at rest. If breathing has ceased, give artificial respiration. Do not give mouth to mouth resuscitation. Get medical attention/ consult a physician immediately.

Note to Physician **:** Treat symptomatically.

PPE for first responders **:** Gloves and safety goggles are highly recommended.

Indication of immediate medical Attention needed : Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain a prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach, and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of the symptoms and the clinical condition of the patient.

5. Fire Fighting Measures:

Flash Point (°C) : No measurable flash point

Flammable Limits : Not applicable

Auto ignition Temp. : Not applicable

Flammable Class : Not applicable

General Hazard : Evacuate personnel downwind in-order to avoid inhalation of irritating and/or harmful fumes and smoke.

Extinguishing Media : Use water fog or spray, dry chemical, foam or carbon dioxide extinguishing agents.

Special hazards arising from the substance : Carbon monoxide, Carbon dioxide, metal oxides, and Nitrogen Oxides (NOx)

Fire Fighting Procedures: Hazardous decomposition and combustion products such as carbon/nitrogen oxides can be formed if product is burning. Cool exposed containers with water spray to prevent over heating.

Fire Fighting Equipment: Respiratory and eye protection are required for fire fighting personnel. Full protective equipment (bunker gear) and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. Evacuate area and fight fire from safe distance or a protected location. Move fire-exposed containers, if allowable without sacrificing the safety of the firefighters. If possible, firefighters should control run-off water to prevent environmental contamination.

6. Accidental Release Measures:

Protective Gear for Personnel : Wear respiratory protection. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental Precaution : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up : Contain spillage. Soak up liquid residue with a suitable absorbent such as clay, sawdust, or cat litter. Sweep up absorbed material and place in a chemical waste container for disposal. Then flush the area with water. CAUTION: The spill area may be slippery.

Release Notes : If spill could potentially enter any waterway, including intermittent dry creeks, contact local authorities.

7. Handling and Storage:

Handling : Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Do not Swallow. Wash thoroughly after handling. Use with adequate ventilation

Storage : Store in a cool, dry well-ventilated area. Keep containers closed and up right when not in use. Keep product isolated from incompatible materials/conditions.

Shelf life: Use within 24 months
Storage Temperature: -17.8 - 48.9°C

8. Exposure Controls and Personal Protection:

Exposure Limits

Component	List	Type	Value
Sodium Hydroxide	ACGIH	Ceiling	2 mg/m3
	OSHA	PEL	2 mg/m3
	NISOH	Ceiling	2 mg/m3

Engineering Controls : Use appropriate engineering controls to avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.

Personal Protective Equipment : **Eyes and face:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH.

Skin: Avoid direct contact with skin. Wear rubber gloves, apron, boots or whole bodysuit when handling this product. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of any contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Complete suit protecting against chemicals; flame retardant anti-static protective clothing. The type of protective equipment must be selected according to the concentration and amount of dangerous substance at the specific work place.

Respiratory: Where risk assessment shows air-purifying respirators are appropriate, use full-face respirator with multi-purpose combination respirator cartridges as a back up to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH.

Work Hygienic Practices : Facilities storing or using this material should be equipped with emergency eyewash, and a safety shower. Good personal hygiene practices should always be followed.

Control of Environmental Exposure :Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Chemical and Physical Properties:

Appearance : Liquid

Odor : Slight ammonia odor

Odor threshold : Not available

Color : Colorless to yellow

pH (1% Solution) : 11.0 - 12.2

Melting Point : Not applicable

Freezing Point : -25°C

Boiling Range : 106°C

Flash Point : No measurable flash point

Viscosity @20°C : 20 cps

Evaporation Rate : < 0.8 estimated

Lower Explosive Limit : Not applicable

Upper Explosive Limit : Not applicable

Vapor Pressure : same as water

Vapor Density : same as water

Relative Density : 1.31 @ 25°C

Solubility : completely miscible in water

Specific Gravity : 1.31 @25°C

Partition coefficient (n-octanol/water) : log POW < 0

Auto Ignition Temp. : Not available

Molecular Weight : 380.2 g/mol

Viscosity :20 cSt @ 20°C

Decomposition Temp : >200°C (solid); >107°C (water loss)

10. Stability and Reactivity:

Stability : The product is stable under recommended storage conditions.

Reactivity : No dangerous reaction known under conditions of normal use.

Possibility of Hazardous Reactions : Polymerization will not occur

Hazardous Decomposition Products : Depends upon temperature, air supply, and the presence of other materials.

Incompatible Materials : Avoid contact with metals such as Aluminum alloys, Copper, Copper alloys, and Nickel. Flammable hydrogen may be generated from contact with metals such as Zinc, and Aluminum.

Conditions to Avoid : Some components of this product can decompose at elevated temperatures

11. Toxicological Information:

Acute Toxicity Data:
Acute oral toxicity: Low toxicity if swallowed. Swallowing my result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.
LD50 Ingestion - Rat - 3,030 mg/kg

Acute Dermal Toxicity: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
LD50 Dermal - Rabbit - > 5,000 mg/kg

Skin corrosion/irritation:
Prolonged contact may cause skin irritation with local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. May cause more severe response if skin is abraded (scratched or cut). May cause more sever response on covered skin (under clothing, gloves). Mist may cause skin irritation. Not classified as corrosive to the skin according to DOT guidelines.

Serious eye damage/eye irritation:
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Respiratory or skin sensitization:
No data available

Repeated Dose Toxicity:
For the minor components: In animals, effects have been reported on the following organs: Kidney, Urinary Tract. Repeated excessive exposures may alter concentrations of metals in the body. In animals, has been shown to cause disposition of calcium salts in various urinary tract tissues.

Carcinogenicity:
Although large dietary doses OF NTA have caused urinary tumors in laboratory animals, there is little likelihood that NTA could cause cancer in humans, especially at sub toxic doses. The Trisodium salt of EDTA did not cause cancer in laboratory animals.

IARC: Nitrilotriacetate, Trisodium salt (NTA) - possible carcinogenic to humans: 2B

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by OSHA.

Teratogenicity: EDTA and its sodium salts have been reported to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation.

Reproductive Toxicity: No relevant data found

Mutagenicity: Most data indicate the EDTA and its salts are not mutagenic. Minimal effects are reported likely due to trace metal deficiencies resulting from chelating by EDTA.

Aspiration Hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

11. Toxicological Information:

COMPONENTS INFLUENCING TOXICOLOGY:

Tetrasodium ethylenediamine tetraacetate:
Oral - LD50: Rat, > 1,780 - < 2,000 mg/kg
Acute Inhalation toxicity - The LC50 has not been determined.
Sodium hydroxyacetate:
Acute Inhalation toxicity - The LC50 has not been determined.
Sodium hydroxide:
Acute Inhalation toxicity - The LC50 has not been determined.

Nitrilotriacetate, Trisodium salt (NTA):
Acute Inhalation toxicity - Dust may cause irritation to upper respiratory tract (nose and throat)
LD50, Rat, male, 4h, dust/mist, >5.0mg/l. No deaths occurred at this concentration

Carcinogenicity:

Component	**List**	**Classification**
Nitrilotriacetate, Trisodium salt (NTA)	IARC	Group 2B: Possibly carcinogenic to humans

12. Ecological Information:

All work practices must be aimed at eliminating environmental contamination.

Toxicity

Toxicity to fish: **Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/l)**
Lepomis macrochirus (bluegill): 96h LC50 > 157 - 2,070 mg/L
Fish (zebra fish): 35d NOEC ≥ 25.7 mg/l
Pimephales promelas (fathead minnow): 96h LC50 > 100mg/L
Sodium Hydroxide: Fish (various species): 96h LC50 = 33 to 189 mg/L

Toxicity to daphnia and other aquatic Invertebrates: Daphnia magna: 48h EC50 = 140 mg/L; 21d NOEC = 25 mg/L

Toxicity to algae: 72h EC50 ≥ 300 mg/L

Toxicity to bacteria: 30m EC20 > 500 mg/L

Biodegradability: Biodegradation under aerobic laboratory conditions is below detectable limits
(BOD20 or BOD28/ThOD < 2.5%)
Biological Oxygen Demand (BOD):
BOD 5 = 15%; BOD 10 = 15%; BOD 20 = 15%
Chemical Oxygen demand: 0.19 - 0.28 mg/mg
Theoretical Oxygen Demand: 1.31 mg/mg

Bioaccumulative Potential: Potential is low (BCF < 100 Log Pow < 3)

Mobility in soil: No adsorption is expected onto soil due to ionic structure. The test substance will preferably distribute into the water compartment and not evaporate from the water surface.

13. Disposal Considerations:

Disposal Method : Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.

For Large Spills : Contain material and call local authorities for emergency assistance.

Product Disposal : Dispose of at a supervised incineration facility or an appropriate waste disposal facility according to current applicable local, state and federal laws, regulations and product characteristics at time of disposal.

Empty Container : Contaminated container should be labeled and disposed in accordance to local, state and federal laws and regulations.

14. Transport Information:

Regulatory Information	UN No.	Proper Shipping Name	UN Class	Packing Group	Labels
US DOT	3267	Corrosive Liquid, Basic, Organic, N.O.S. Solution	8	III	Corrosive
IMDG	N/A	N/A	N/A		N/A
IATA	N/A	N/A	N/A		N/A

15. Regulatory Information:

U.S. Federal Regulations:

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312: Immediate (Acute) Health Hazard; Delayed (Chronic) Health Hazard

Pennsylvania Right to know Components:

Component	CAS#	Amount
Sodium Hydroxide	1310-73-2	<1.6%
Formaldehyde	50-00-0	≤0.099%

California Proposition 65 Components: This product contains a chemical known to the State of California to cause cancer.

Component	CAS#	Amount
Formaldehyde	50-00-0	700.0PPM

CEPA - Domestic Substances List (DSL): All substances contained in this product are listed on the Canadian Domestic Substances list (DSL) or are not required to be listed.

Canada - WHMIS:

Class D1B: Materials causing immediate and serious toxic Effects - Toxic material
Class D2A (Other toxic effects); Class E (Corrosive to metal).
Class D2B: Materials causing other toxic effects - Toxic material

US Toxic Substances Control Act: All components of this product are listed on the TSCA inventory or are exempt from TSCA inventory requirements under 40 CFR 720.30

16. Other Information:

HMIS and NFPA Rating Scale:

HMIS: Hazardous Materials Identification System

Numeric Scale for Health (Blue), Flammability (Red), and Physical Hazard (Yellow):

HMIS Rating:*

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

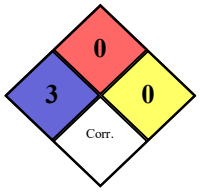
RATING	HEALTH	FIRE HAZARD	PHYSICAL HAZARD
0	No significant risk to health	Will not burn	Product stable under ambient temperature and condition.
1	Can cause irritation or minor reversible injury.	Must be preheated to burn	Product can become unstable at high temperatures and pressures.
2	Can cause temporary or residual injury	Ignites when moderately heated	Product can become unstable and cause violent chemical reaction at normal pressures and temperatures
3	Can cause serious injury	Ignition occurs at normal temperature	Product capable of forming explosive mixtures and is capable of detonation in presence of strong initiating source.
4	Can be lethal from single or repeated exposure.	Extremely flammable	Product is highly explosive and unstable. Exothermic reactions possible with decomposition, polymerization, reaction with water or self reaction

Personal Protection Code C: Gloves + Safety Goggles + Chemical Apron

NFPA: National Fire Protection Association

Numeric Scale for Health (Blue), Fire Hazard (Red), and Reactivity (Yellow):
Special (White)

NFPA Rating:*



RATING	HEALTH	FIRE HAZARD	REACTIVITY
0	Minimal Hazard	Will not burn	Normally Stable
1	Can cause significant irritation	Must be preheated to burn	Unstable at high temperatures
2	Can cause temporary incapacitation or residual injury	Ignites when moderately heated	Normally unstable. Can readily go under violent chemical reaction but do not detonate.
3	Can cause permanent injury.	Ignition occurs at normal temperature	Capable of detonation, or of explosive reaction, but requires a strong ignition source.
4	Can be lethal.	Extremely flammable	May explode at normal temperatures and pressures

16. Other Information:

Potential Health Effects:

Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Skin Contact: Prolonged contact may cause skin irritation with local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. May cause severe response if skin is abraded (scratched or cut). May cause more severe response on covered skin (under clothing, gloves). Mist may cause skin irritation. Not classified as corrosive to the skin according to DOT guidelines.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Inhalation: Vapors are primarily water; single exposure is not likely to be hazardous. Prolonged excessive exposure to mist may cause serious adverse effects, even death. Mist may cause irritation of upper respiratory tract (nose and throat).

Ingestion: Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.

Aspiration Hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Effects of Repeated Exposure: For the minor component(s): In animals, effects have been reported on the following organs: Kidney and Urinary tract. Repeated excessive exposure may alter concentrations of metals in the body. In animals, it has been shown to cause deposition of calcium salts in various urinary tract issues.

Cancer Information: Although large dietary doses of NTA have caused urinary tumors in laboratory animals, there is little likelihood that NTA could cause cancer in humans, especially in sub toxic doses.

Birth Defects/Developmental Effects: EDTA and its sodium salts have been reported to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation.

Revision Date: March 29, 2022

Reason for Revision: Updated logo and contact information. Reviewed for accuracy.

The information contained in this SDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions or handling, storage and disposal of this product are beyond the control of the manufacturer/supplier, they are not held responsible for loss, injury, and expense arising out of the product's use. No warranty, expressed or inferred, regarding the product described in this SDS shall be created or inferred by any statement in this MSDS.