



NORTH Metal and Chemical Co.

1. Company Identification and Product Hazard Overview:

Product Name : Versene 220 Crystals
Synonyms : N/A
Recommended Use : Chelating Agent; sequesters metal ions.
Manufactured for : **NORTH Metal and Chemical Company**
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York, PA USA 17405 York, PA USA 17403
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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)

Eye Damage (Category 1)

Signal Word: Warning

Pictograms: Acute Toxicity



Hazard Statements:

H333 : May be harmful if inhaled
H303 : May be harmful if swallowed
H318 : Causes serious eye damage
H335 : May cause respiratory irritation

Precautionary Statements:

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.
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
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 : Versene 220
Chemical Family : Chelating Agent
Chemical Formula :

| Substance: | CAS Number: | EC | Compo. (%) |
|---|-------------|----|------------|
| Tetrasodium ethylenediamine tetraacetate Tetrahydrate | 13235-36-4 | | 99.9% |

The CAS# 13235-36-4 can also be described for TSCA by CAS# 64-02-8.

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 : Chemical eye burns may require extended irrigation. Obtain a prompt consultation, preferably from an ophthalmologist. 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) : Not applicable
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 : This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.
Special hazards arising from the substance : Not available
Unusual Fire and Explosion Hazards : Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate.

Fire Fighting Procedures: Hazardous decomposition and combustion products may cause this product to decompose.

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

: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling for additional precautionary measures.

Environmental Precaution

: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up

: Contain spillage. Use non-sparking tools in cleanup operations. Sweep up. Good housekeeping and controlling of dusts are necessary for safe handling of product. Collect in suitable and properly labeled containers.

Release Notes

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

7. Handling and Storage:

Handling

: Do not get in eyes. Do not Swallow. Wash thoroughly after handling. Use with adequate ventilation. Good housekeeping and controlling of dusts are necessary for safe handling of product. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static charge. See Section 8, Exposure and Controls and Personal.

Storage

: Do not store in: Open or unlabeled containers. Store in original unopened container. Store in accordance with good manufacturing practices. Minimize sources of ignition, such as static build-up, spark or flame.
Shelf life: Use within 24 months
Storage Temperature: -18 - 49°C

8. Exposure Controls and Personal Protection:

Exposure Limits

: None established

Engineering Controls

: Use appropriate engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only adequate ventilation.

Personal Protective Equipment

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

Skin: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full-body suit will depend on the task. **Hand Protection:** Use gloves chemically resistant to this material. Examples of preferred glove barriers include: Natural rubber (Latex), Neoprene, Nitrile/butadiene rubber, (nitrile or NBR), Polyethylene, Ethyl vinyl alcohol laminate (EVAL), Polyvinyl chloride (PVC or vinyl). Avoid gloves made of Polyvinyl alcohol (PVA). Notice: The selection of a specific glove for a particular and duration of use in a workplace should also take into account all relevant work factors such as, but limited to: other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal instructions/specifications provided by the glove supplier).

Respiratory: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use approved particulate respirator.

Ingestion

: Use good personal hygiene. Do not consume food or store food in the work area. Wash hands before smoking and eating.

9. Chemical and Physical Properties:

| | | | |
|------------------------------|-----------------------------|------------------------------|------------------|
| Appearance | : Solid | Vapor Density | : Not applicable |
| Odor | : Odorless | Relative Density | : Not available |
| Odor threshold | : Odorless | Solubility in water | : 500 g/l @ 20°C |
| Color | : White | (by weight) | |
| pH | : 10.5 - 11.5 (1% solution) | Specific Gravity | : Not applicable |
| Melting Point | : Not applicable | Partition coefficient | |
| Freezing Point | : Not applicable | (n-octanol/water) | : Not Available |
| Boiling Range | : Not applicable | Auto Ignition Temp. | : Not applicable |
| Flash Point | : None | Molecular Weight | : 452.2 g/mol |
| Viscosity @ 20 °C | : Not available | Viscosity | : Not applicable |
| Evaporation Rate | : Not applicable | Decomposition Temp | : Not available |
| Lower Explosive Limit | : Not applicable | | |
| Upper Explosive Limit | : Not applicable | | |
| Vapor Pressure | : < 0.1 mmHg | | |

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. Decomposition products can include and are not limited to Carbon Dioxide, Carbon Monoxide, Ammonia and Nitrogen Oxides.

Incompatible Materials : Avoid contact with Oxidizers. Flammable Hydrogen may be generated from contact with metals such as Aluminum.

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

11. Toxicological Information:

Acute Toxicity Data:

As product, single dose oral LD50 has not been determined.

Based on information for components:

LD50 Ingestion - Rat - 1,780 - < 2,000 mg/kg

LD50 Dermal - Rabbit - > 5,000 mg/kg

LC50 Inhalation - No deaths occurred at this concentration - Rat - 4h, Dust, 4.14 mg/l

Skin corrosion/irritation:

Essentially nonirritating to skin. May cause more severe response if skin is abraded (scratched or cut). May cause more severe response if skin is damp.

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.

Skin Sensitization:

For the major components: A similar material did not cause allergic reactions when tested in humans.

Respiratory:

For the major components: No signs of respiratory sensitization have been reports.

Repeated Dose Toxicity:

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity:

The Trisodium salt of EDTA did not cause cancer in laboratory animals.

Developmental Toxicity: 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: Limited data in Laboratory animals suggest that the material does not affect reproduction.

Genetic Toxicology: 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.

12. Ecological Information:

Data for Component: Tetrasodium Ethylenediamine tetraacetate Tetrahydrate

Acute Toxicity to fish: Material is practically non-toxic to fish on an acute basis
(LC50/EC50/EL50/LL50 > 100mg/L in the most sensitive species tested)
LC50: Lepomis macrochirus (Bluegill sunfish) - static test, 96h: 1,592 mg/l

Acute Toxicity to Aquatic

Invertebrate: EC50: Daphnia magna (Water flea) - 24h, immobilization: 610 - 1,033 mg/l

Acute Toxicity to

Plants: EC50: Pseudokirchneriella subcapitata (green algae) - static test, Growth rate inhibition, 72h: >100 mg/l

Chronic Toxicity

To fish (ChV): Danio rerio (zebra fish) - flow-through test, 35d, Other, NOEC, NOEC: > 25.7 mg/l

Chronic Toxicity

To Aquatic

Invertebrates: Daphnia magna (water flea) - semi-static test, 21d, number of offspring, NOEC: 25 mg/l

Biodegradability:

Data for Component: Tetrasodium Ethylenediamine tetraacetate Tetrahydrate

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Material is ultimately biodegradable (reaches > 70% biodegradation in OECD tests for inherent biodegradability).

OECD Biodegradation Tests:

| Biodegradation | Exposure Time | Method | 10 Day Window |
|----------------|---------------|----------------|----------------|
| 90 - 100 % | 28 d | OECD 302A Test | Not applicable |
| 10 % | 28 d | OECD 301E Test | fail |
| 0 - 10 % | 28 d | OECD 302B Test | Not applicable |

Theoretical Oxygen Demand: 1.05 mg/mg

Bioaccumulative Potential:

Data for Component: Tetrasodium Ethylenediamine tetraacetate Tetrahydrate

Bioaccumulation : Bioconcentration Potential is low (BCF < 100 Log Pow < 3)
Partition coefficient, n-octanol/water (log POW): -3.86 Estimated
Bioconcentration Factor (BCF): 1 - 2; Lepomis macrochirus (Bluegill sunfish); Measured.

Mobility in soil:

Data for Component: Tetrasodium Ethylenediamine tetraacetate Tetrahydrate

Mobility in soil: Potential for mobility in soil is low (Koc between 500 and 2000)
Partition coefficient, soil organic carbon/water (Koc): 1,046 Estimated.

Henry's Law Constant (H): 1.18E-23 atm*m3/mole: 25°C Estimated.

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.

General Comments : Refer to section 6, accidental release measures for additional information.

14. Transport Information:

DOT Non-Bulk

Not Regulated

DOT Bulk

Not Regulated

IMDG

Not Regulated

ICAO/IATA

Not Regulated

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

Pennsylvania Right to know Components: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 Components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm at levels which would require a warning under the statute.

OSHA Hazcom Standard Rating: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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.

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 | Will not burn | Product stable under ambient temperature |
| 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 |

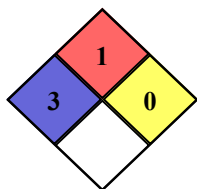
Personal Protection Code C: Gloves + Safety Goggles + Chemical Apron

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: Essentially non-irritating to skin. May cause severe response if skin is abraded (scratched or cut). May cause more severe response if skin is damp.

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

Inhalation: Vapors are unlikely due to physical properties. Dust may cause irritation of upper respiratory tract (nose and throat).

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Aspiration Hazard: Based on physical properties, not likely to be an aspiration hazard.

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: April 14, 2015

Reason for Revision: Add necessary data to meet GHS requirements.

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