North Metal and Chemical Company

## 1. Company Identification:

**Product Name** : Tetra Sodium Salt of 2-PHOSPHONOBUTANE-1,2,4-TRICARBOXYLIC ACID

**Synonyms** : **NorthQuest 6504:** PBTC-Na4; Neutralized Phosphonobutane Tricarboxylic Acid

**Product Use** : Used as a scale inhibitor, deflocculant, sequestrant, and water stabilizer in cooling water systems

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

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York, PA USA 17405
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York, PA USA 17405
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**In Case of Emergency Call CHEMTREC (24 Hours): 1-800-424-9300 (USA & CANADA)**

## 2. Hazard Identification:

**GHS Classification:**
Acute Toxicity, Oral (Category 4)
Serious Eye Damage / Eye Irritation (Category 2A)
Skin Irritation (Category 2)

**Signal Word: Warning**
**Pictograms:**

**Hazard Statements:**

| | |
|---|---|
| **H302** | : Harmful if swallowed. |
| **H319** | : Causes serious eye irritation |
| **H315** | : Causes skin irritation |

**Precautionary Statements - Prevention:**

| | |
|---|---|
| **P264** | : Wash hands thoroughly after handling. |
| **P270:** | : Do not eat, drink, or smoke when using this product |
| **P265** | : Do not touch eyes |
| **P280** | : Wear protective gloves / protective clothing / eye protection / face protection / hearing protection / |

**Precautionary Statements - Response:**

| | |
|---|---|
| **P301 + P317** | : IF SWALLOWED: Get medical help. |
| **P305+ P351 + P338** | : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. |
| **P330** | : Rinse mouth |
| **P337 + P317** | : If eye irritation persists: Get medical help |
| **P302 + P352** | : IF ON SKIN: Wash with plenty of water |
| **P321** | : Specific treatment (see information on this label and safety data sheet) |
| **P332 + P317** | : If skin irritation occurs: Get medical help. |
| **P362 + P364** | : Take off contaminated clothing and wash it before reuse. |

**Precautionary Statements - Storage:**
None

**Precautionary Statements - Disposal:**

| | |
|---|---|
| **P501** | : Dispose of contents/container in accordance with local, state, and federal legislation. |

**Hazards Not Otherwise Classified (HNOC):**
None known

**Unknown Acute Toxicity:**
Not applicable

## 3. Composition/Information on Ingredient:

**Chemical Name** : Tetra Sodium Salt of 2-Phosphonobutane-1,2,4-Tricarboxylic Acid , PBTC - Na4.

**Chemical Family** : Organophosphates

**Chemical Formula** : $C_7H_{11}O_9P$ - $Na_4$

**EC Number** : 254-894-4

| Substance: | CAS Number: | Hazard | Compo. (% ) |
|---|---|---|---|
| Tetra Sodium Salt of 2-Phosphonobutane-1,2,4-Tricarboxylic Acid | 40372-66-5 | See Section 2 | 40-42.5 |
| Water | 7732-18-5 | - | 57.5-60 |

## 4. First Aid Measures:

**Eyes** : Flush eyes with running water for at least fifteen minutes. Remove any contact lenses. Get medical aid/ attention immediately.

**Skin** : Remove contaminated clothing. Wash skin with plenty of running water and soap. Get medical attention/ aid if irritation persists. Contaminated clothing should be washed before use.

**Ingestion** : If the product is swallowed, first rinse mouth. Give large 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. Aspiration may cause pulmonary edema and pneumonitis.

**Inhalation** : If safe to do so, remove individual from further exposure. Keep warm and at rest. If breathing has ceased, give artificial respiration. Get medical attention/consult a physician.

**Note to Physician** : Treat symptomatically.

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

## 5. Fire Fighting Measures:

**Flash Point (°C)** : Not available.

**Flammable Limits** : Not available.

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

**Extinguishing Media** : **Water spray, alcohol resistant foam, dry chemical powder or carbon dioxide. Appropriate for the surrounding area.**

**Hazardous Combustion Products** : **Fire may cause evolution of corrosive vapors of phosphorous oxides as well as carbon oxides.**

**Fighting Procedures** : Hazardous decomposition and combustion products such as phosphorous and carbon oxides can be formed if product is burning. Cool exposed containers with water spray to prevent overheating.

**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 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.

**Sensitivity to Static Discharge** : Not sensitive.

**Sensitivity to Mechanical Impact** : Not sensitive.

## 6. Accidental Release Measures:

**Protective Gear for Personnel:**

**For Small Spill** : Safety glasses or chemical splash goggles, chemically resistant gloves (rubber), chemically resistant boots, and any appropriate body protection to minimize direct contact to the skin. Wear respiratory protection to avoid inhaling vapors.

**For Large Spill** : Triple gloves (rubber and nitrile over latex), chemical resistant suit, boots, hard hat, full face mask/an air purifying respirator (NIOSH approved). Self contained breathing apparatus must be worn in situations where fumigant gas generation and low oxygen levels are a consequence of contamination from the leak.

**Spill Clean-up Procedures:**

**For Small Spill** : In the event of a small spill, the spill should be contained with an absorbent pad and placed in a properly labeled waste disposal container immediately. Do not use water for clean up. Do not let chemical/waste enter the environment. Dispose as per instructions in section 13.

**For Large Spill** : In the event of a large spill, contain the spill immediately and dispose the spill/waste according to state, federal, and local hazardous waste regulation. Do not let chemical/waste enter the environment.

**Environmental Precaution** : Water spill: use appropriate containment to avoid run off or release to sewer or other waterways.
Land spill: use appropriate containment to avoid run off or release to ground.
General precaution: remove containers of strong acid, alkali and incompatible materials from the release area.

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

## 7. Handling and Storage:

**Handling** : Use appropriate personal protective equipment as specified in Section 8. Handle in a well-ventilated area. Handle in a manner consistent with good industrial/manufacturing techniques and practices. Wash hands thoroughly with soap and water after use. Remove contaminated clothing and protective equipment before entering eating areas.

**Storage** : Store in a cool, dry well-ventilated area. Keep containers closed when not in use. Keep containers isolated from incompatible materials/conditions such as heat and ignition sources. Protect against physical damage and check regularly for leaks.

## 8. Exposure Controls and Personal Protection:

**Engineering Controls** : Use appropriate engineering controls to minimize exposure to vapors/dust generated via routine use. Maintain adequate ventilation of workplace and storage areas.

**Personal Protective Equipment** : **Eyes and face:** Wear safety glasses with side shields or face shield when handling this material.
**Skin:** Avoid direct contact with skin. Wear chemically resistant gloves (PVC/rubber), apron, boots or whole chemically resistant bodysuit when handling this product.
**Respiratory:** Avoid breathing vapor or mist. If risk of overexposure, use NIOSH approved respiratory protection equipment. If used, full face-piece replaces the need for face shield and/or chemical goggles. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.

**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.

**Exposure Limits:**

| Substance: | CAS No.: | OSHA STEL | OSHA PEL | ACGIH TLV | ACGIH STEL |
|---|---|---|---|---|---|
| Tetra Sodium Salt of 2-Phosphonobutane-1,2,4-Tricarboxylic Acid | 40372-66-5 | N/A | N/A | N/A | N/A |

## 9. Chemical and Physical Properties:

| | | | |
|---|---|---|---|
| **Appearance** | : Light yellow transparent liquid | **Vapor Density** | : No data available |
| **Odor** | : Odorless | **Density** | : 1.35 g/mL |
| **Color** | : Light yellow | **Solubility** | : Soluble in water |
| **pH (1% Solution)** | : 7.5-9.5 | **Partition Coefficient** | |
| **Freezing Point** | : -10°C | **n-octanol/water** | : <1 |
| **Boiling Range** | : approx. 100°C | **Dynamic viscosity** | : <100cPs |
| **Flash Point** | : >100°C | **Kinematic Viscosity** | : dynamic viscosity/density = 74cSt |
| **Auto Ignition Temp.** | : No data available | **Evaporation Rate** | : 1 (water=1) |
| **Decomposition Temp.** | : >150°C | **Particle Characteristics** | : Not applicable |
| **Lower Explosive Limit** | : No data available | | |
| **Upper Explosive Limit** | : No data available | | |
| **Vapor Pressure** | : No data available | | |

## 10. Stability and Reactivity:

**Stability** : The product is stable under recommended storage and handling conditions.

**Hazardous Polymerization** : Polymerization will not occur.

**Hazardous Decomposition Products** : Gives off hydrogen by reaction with metals. Oxides of carbon and oxides of phosphorous formed under decomposition/fire.

**Materials to Avoid** : Corrodes base metals. Reacts with oxidizing substances, strong acid, strong alkaline.

**Conditions to Avoid** : Avoid exposure to extreme temperatures, incompatible materials, & combustible materials.

## 11. Toxicological Information:

**Acute Oral Toxicity:**

$LD_{50}$ Oral - Rat**:** 5000 mg/kg

**Acute Inhalation Toxicity:**

$LC_{50}$ Inhalation - Rat: > 1.979 mg/L/4h

**Acute Dermal Toxicity:**

$LD_{50}$ Dermal - Rabbit: 2000 mg/kg

**Corrosion/Irritation:**

**Skin** : Slightly irritating - rabbit

**Eyes** : Severely irritating - rabbit

**Carcinogenicity** : IARC, NTP, OSHA, ACGIH*: Not listed*

**Sensitization** : did not produce skin sensitization in laboratory animals

**Mutagenicity** : Not mutagenic.

**Reproductive Effects** : No data available .

**Teratogenic Effects** : No data available.

**Routes of Exposure** : Eyes, Skin, Inhalation, Ingestion

**Potential Health Effects:**

Eyes : Causes serious eye damage.

Skin : Can cause irritation to the skin.

Inhalation : May be harmful if inhaled. Can cause irritation to the respiratory tract and can induce coughing.

Ingestion : Harmful if swallowed. Can cause slight irritation and discomfort.

## 12. Ecological Information:

**All work practices must be aimed at eliminating environmental contamination.**

**Biodegradability in Soil/Water** : Zahn - Wellens (OECD 302B) 17% 28 d

**Bioaccumulative Potential** : Low. Secondary poisoning via the food chain is unlikely to occur.

**Aquatic Ecotoxicity (Acute)**
**Fish Toxicity** : LC50 / Oncorhynchus mykiss / 48H : 3440 mg/L
**Aquatic Invertebrates** : EC50 / Daphnia Magna / 48H : 265 mg/L
**Algae Toxicity** : EC50 / algae : 140 mg/L/72h, 860 mg/L/96h
**Mobility in Soil** : No data available

**Other Adverse Effects** : Do not allow to penetrate into soil, water bodies, or drains

## 13. Disposal Considerations:

**Disposal Method** : Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations.

**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:

| Regulatory Information | UN No. | Proper Shipping Name | UN Class | Packing Group | Label |
|---|---|---|---|---|---|
| **US DOT** | N/A | Not DOT Regulated | N/A | N/A | N/A |

## 15. Regulatory Information:

**U.S. FEDERAL REGULATIONS:**

**TSCA:** All components of this product are listed on the TSCA inventory.

**CERCLA**: No components of this product are listed.

**SARA TITLE III (EPCRA) Section 313:** No components of this product are listed.

**SARA TITLE III (EPCRA) Section 311/312:** No components of this product are listed.

**Canadian WHMIS Classification: D2(B) -** No components of this product are listed.

**OSHA:** None of the chemicals in this product are considered highly hazardous by OSHA

**California Proposition 65:** No significant risk level

Acute health hazard - Yes
Chronic health hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

## 16. Other Information:

**Creation Date: December 4, 2025**

**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 SDS.**