



NORTH Metal and Chemical Co.

1. Company Identification and Product Hazard Overview:

Product Name : NorthQuest 4593; Phosphinosuccinic Oligomer - PhosphinoCarboxylic Acid
Synonyms : PSO 50%; Phosphino Carboxylic Acid, PCA
Recommended Use : Used as a scale inhibitor and dispersing agent in industrial water treatment programs
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, Oral (Category 5)

Acute Toxicity, Inhalation (Category 5)

Specific Target Organ Toxicity (Repeated Exposure) (Category 2)

Signal Word: WARNING

Pictograms: Acute Toxicity, Health Hazard



Hazard Statements:

H303 : May be harmful if swallowed
H333 : May be harmful if inhaled
H373 : May cause damage to bone and kidneys through prolonged or repeated oral exposure

Precautionary Statements:

P260 : Do not breathe vapors
P264 : Wash contact area thoroughly after handling
P280 : Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353 : IF ON SKIN or hair: Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower
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 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P304 + P340 + P310 : IF INHALED: Remove person to fresh air and keep in position comfortable for breathing
P312 : Call a POISON CENTER or doctor/physician if feeling unwell
P403 + P235 : Store in a well-ventilated place. Keep cool.
P273 + P405 : Avoid release to the environment. Store Locked Up.
P501 : Dispose of contents/container in accordance with local/state/federal regulations.

3. Composition/Information on Ingredient:

Chemical Name : NorthQuest 4593; Phosphinosuccinic Oligomer 50% Solution
Chemical Family : Acrylic Polymer
Chemical Formula : Not applicable

Substance:	CAS Number:	Compo. (%)
Phosphino carboxylic acid	71050-62-9	48 - 50%
Water	7732-18-5	50 - 52%

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.

5. Fire Fighting Measures:

Flash Point (°C) : Not available

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. This product is a non-flammable substance. However, hazardous decomposition and combustion products such as oxides of carbon and phosphorous can be formed if product is burning. Material can splatter above 100°C. Cool exposed containers with water spray to prevent over heating.

Extinguishing Media : Use water spray or chemical-type foam

Special hazards arising from the substance : Carbon oxides and phosphorous may be evolved during fires

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:

For Small Spill : Safety glasses or chemical splash goggles, chemically resistant gloves (rubber/latex), chemically resistant boots, and any appropriate body protection to minimize direct contact to the skin.

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 leak should be contained with an absorbent pad and placed in a properly labeled waste disposal container immediately. Clean the spill area with water. Do not let chemical/waste enter the environment

For Large Spill : In the event of a large spill, contain the spill immediately and dispose 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 and alkali 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 product isolated from incompatible materials/conditions such as freezing temperatures. Empty containers retain vapor and material residue. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed.

8. Exposure Controls and Personal Protection:

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: Tightly fitting safety goggles. Face shield (8-inch minimum). 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.

Respiratory: Avoid breathing vapors or mist. 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.

8. Exposure Controls and Personal Protection:

Exposure Limits:

Component:	OSHA STEL	OSHA PEL	ACGIH TLV	ACGIH STEL
Phosphinosuccinic acid	N/A	N/A	N/A	N/A

9. Chemical and Physical Properties:

Appearance	: Clear Liquid	Upper Explosive Limit	: Not applicable
Odor	: Slight	Flammability	: Not Flammable
Odor threshold	: Not available	Vapor Pressure	: 24 mmHg @ 25°C (water)
Color	: Colorless to pale yellow/amber Liquid	Vapor Density	: Not available
pH (1% Solution)	: 3.0 - 4.5	Relative Density	: Not available
Melting Point	: > -3°C	Specific Gravity	: 1.200 - 1.280
Freezing Point	: -3°C to -10°C	Solubility	: Soluble in Water
Boiling Range	: 101°C - 103°C	Partition coefficient (n-octanol/water)	: Not available
Flash Point	: Not available	Auto Ignition Temp.	: Not available
Decomposition Temp.	: Not available	Molecular Weight	: Not available
Evaporation Rate	: Not available	Viscosity (cPs @ 25°C)	: 200 - 2000
Lower Explosive Limit	: Not applicable		

10. Stability and Reactivity:

Stability	: The product is stable under normal ambient conditions of temperature and pressure.
Polymerization	: Polymerization will not occur
Hazardous Decomposition Products	: Oxides of carbon and oxides of phosphorous.
Incompatible Materials	: Alkaline materials, acid reactive salts such as nitrites and sulfites, mild steel.
Conditions to Avoid	: Avoid exposure to extreme temperatures, contact with incompatible chemicals, uncontrolled contact with accelerants.

11. Toxicological Information:

Acute Toxicity Data:

Oral LD₅₀ (Rat) : > 5000 mg/kg (Similar product)
Dermal LD₅₀ : No data available
Inhalation LD₅₀ : No data available

Corrosion/Irritation:

Skin : Non irritant (Similar product)
Eyes : Non irritant (Similar product)

Sensitization:

Respiratory : No data available.
Skin : No data available.

Carcinogenicity : IARC, NTP, OSHA, ACGIH - Not Listed

Mutagenicity : No data available.

Reproductive Effects : No data available.

Teratogenic Effects : No data available.

Routes of Exposure : Eyes, Skin, Inhalation.

Acute Effects from Overexposure: Product is not expected to be irritating to the eyes and skin.

Chronic Effects from Overexposure: A 90-day feeding study in rats indicated bone damage and kidney effects with a similar products. Product was not genotoxic in standard tests.

12. Ecological Information:

All work practices must be aimed at eliminating environmental contamination. No data available for this product. Data below are given for a similar product.

Biodegradability:

Effluent Data

BOD: Modified OECD test 301E - Not biodegradable.

OECD Closed bottle test 301D - Not biodegradable.

COD: 1.113g Oxygen/g

Ecotoxicity:

Rainbow Trout: 96 hour LC₅₀ > 1000 ppm (Solids)

Zebra Fish: 96 hour LC₅₀ > 1000 ppm (Solids)

Brown Shrimp: 96 hour LC₅₀ > 10,000 ppm

Daphnia Magna: 24 hour EC₅₀ > 320 ppm

Algae - Scenedesmus subspicatus: EBC₅₀ (0-72hour) = 130 ppm

Mobility in Soil : No data available.

Other Adverse Effects : No data available.

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	Labels
US DOT	None	Not Regulated	None		None
IMDG	None	Not Regulated	None		None
IATA	None	Not Regulated	None		None

15. Regulatory Information:

U.S. Federal Regulations:

TSCA Status: All components of this product are in compliance with TSCA

CERCLA Section 103 (40 CFR 302.4): No components of this products are listed.

SARA Section 311 Categorizations (40 CFR 370): Delayed Chronic Health Hazards

SARA Section 312 Threshold Planning Quantity (40 CFR 370): 10,000 LBS

SARA Section 313: No components of this products are listed.

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:*		RATING	HEALTH	FIRE HAZARD	PHYSICAL HAZARD
HEALTH	1	0	No significant risk to health	Will not burn	Product stable under ambient temperature and condition.
FLAMMABILITY	0	1	Can cause irritation or minor reversible injury.	Must be preheated to burn	Product can become unstable at high temperatures and pressures.
PHYSICAL HAZARD	0	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
PERSONAL PROTECTION	B	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

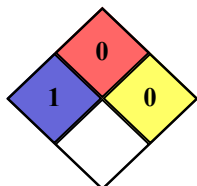
Personal Protection Code B: Gloves + Safety Goggles

16. Other Information:

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

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