



North Metal and Chemical Company

1. Company Identification:

Product Name : Amino trimethylene phosphonic acid (ATMP), aqueous solution

Synonyms : ATMP, Aminotris (Methanephosphonic Acid); Nitriolotrimethylenephosphonic Acid; Nitrioltris (Methylene) Triphosphonic Acid

Product Use : Used as a scale and corrosion inhibitor, deflocculant, sequestrant, and water stabilizer in cooling and boiler water treatment systems; a stabilizer for hydrogen peroxide cleaning products; metal surface treatment products; anti-scalant in oilfield water systems; and, bleaching agent.

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

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In Case of Emergency Call CHEMTREC (24 Hours): 1-800-424-9300 (USA & CANADA)

2. Hazard Identification:

GHS Classification:

Acute Oral Toxicity (Category 5)
Acute Inhalation Toxicity (Category 5)
Skin Irritation (Category 2)
Serious Eye Damage (Category 1)
Corrosive to Metals (Category 1)

Signal Word: Danger

Pictograms:



Hazard Statements:

H290 : May be corrosive to metals.
H303 : May be harmful if swallowed.
H333 : May be harmful if inhaled
H315 : Causes skin irritation.
H318 : Causes serious eye damage.

Precautionary Statements:

P280 : Wear protective gloves (rubber/PVC)/protective clothing such as apron, boots and safety glasses with side shields.
P264 : Wash all affected body parts thoroughly after handling.
P273 : Avoid release to the environment.
P234 : Keep only in original packaging.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician.
P310 : Immediately call a POISON CENTER/doctor
P302 + P352 : IF ON SKIN: Wash with plenty of soap and water
P332 + P313 : If skin irritation or rash occurs: Get medical advice/attention..
P301 + 312 : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340 : IF INHALED: Remove person to fresh air and keep in position comfortable for breathing
P391 + P501 : Collect Spillage. Dispose of contents/container in accordance with local/state/federal regulations.
P406 : Store in corrosive resistant Glass, PVC, PP or PE container/in container with a resistant inner liner

3. Composition/Information on Ingredient:

Chemical Name : Amino trimethylene Phosphonic Acid; ATMP
Chemical Family : Organophosphates
Chemical Formula : $C_3H_{12}NO_9P_3$
EC Number : 229-146-5

Substance:	CAS Number:	Hazard	Compo. (%)
1-Hydroxy Ethylidene 1,1-diphosphonic Acid	6419-19-8	See Section 2	48-52%
Phosphonic Acid	13598-36-2	-	< 4%

4. First Aid Measures:

Eyes : Flush skin 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.

Medical conditions likely to be aggravated by exposure: Central nervous system and cardiovascular system

Note to Physician : Treat symptomatically.

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

5. Fire Fighting Measures:

Flash Point (°C) : Not applicable

Flammable Limits : Not applicable

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. Do not use a high-power water jet.**

Hazardous Combustion Products : **Fire may cause evolution of corrosive vapors of phosphorous oxides as well as Phosphine, nitrogen oxides (NOx), carbon monoxide and carbon dioxide.**

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. Firefighters should control run-off water to prevent environmental contamination.—Do not release to sewers or waterways.

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. Qualified materials: glass, PVC, polypropylene, polyethylene.

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. Do not store with oxidizing agents, alkalis, or caustic substances.

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 PEL		ACGIH TLV		NIOSH REL		NIOSH
		STEL	TWA	TWA	STEL	TWA	STEL	IDLH
Amino Trimethylene Phosphonic Acid	6419-19-8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phosphoric Acid	7664-38-2	3 mg/m ³	1 mg/m ³	1 mg/m ³	3 mg/m ³			1000 mg/m ³

8. Exposure Controls and Personal Protection:

DNEL/DMEL:	Information about Amino trimethylene phosphonic acid: DNEL long-term, workers, inhalative: $\geq 19.4 \text{ mg/m}^3$ DNEL short-term, workers, inhalative: $\geq 19.4 \text{ mg/m}^3$ DNEL long-term, workers, dermal: $\geq 4.8 \text{ mg/kg bw/d}$ DNEL short-term, workers, dermal: $\geq 4.8 \text{ mg/kg bw/d}$ DNEL long-term, consumers, inhalative: $\geq 4.8 \text{ mg/m}^3$ DNEL short-term, consumers, inhalative: $\geq 4.8 \text{ mg/m}^3$ DNEL long-term, consumers, dermal: $\geq 1.38 \text{ mg/kg bw/d}$ DNEL short-term, consumers, dermal: $\geq 1.38 \text{ mg/kg bw/d}$ DNEL long-term, consumers, oral: $\geq 1.38 \text{ mg/kg bw/d}$ DNEL short-term, consumers, oral: $\geq 1.38 \text{ mg/kg bw/d}$
PNEC:	Information about Amino trimethylene phosphonic acid: PNEC water (freshwater): 0.46 mg/L PNEC water (marine water): 0.046 mg/L PNEC sediment (freshwater): 150 mg/kg dwt PNEC sediment (marine water): 15 mg/kg dwt PNEC soil: 244 mg/kg dwt PNEC sewage treatment plant: 20 mg/L PNEC Secondary Poisoning, oral: $> 333 \text{ mg/kg food and feedingstuffs}$

9. Chemical and Physical Properties:

Appearance	: Clear Liquid	Lower Explosive Limit	: Not available
Odor	: Perceptible, aromatic	Upper Explosive Limit	: Not available
Odor threshold	: Not available	Vapor Pressure	: Not available
Color	: Colorless to Pale Yellow	Vapor Density	: (Air=1): 10.3
pH (1% solution)	: 2.0 max @ 25°C	Specific Gravity	: 1.32 - 1.36 @ 20 °C
Melting Point	: -12 °C	Solubility	: Soluble
Freezing Point	: -12°C	Partition Coefficient	
Boiling Range	: >105 °C	n-octanol/water	: -3.53
Flash Point	: Not combustible	Auto Ignition Temp.	: Not available
Ignition Temp.	: No data available	Molecular Weight	: 299.05
Thermal Decomposition	: 178°C		
Evaporation Rate	: < 1 (n-Butyl Acetate = 1)		

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. Strong oxidizing agents, alkalis, and caustic substances. Reacts with steel and aluminum.
Conditions to Avoid	: Avoid exposure to extreme temperatures, incompatible materials, & combustible materials.

11. Toxicological Information:

Acute Oral Toxicity:

LD₅₀ Oral - Rat: > 2910 mg/kg

Acute Inhalation Toxicity:

LC₅₀ Inhalation : No data available

Acute Dermal Toxicity:

LD₅₀ Dermal - Rabbit - > 6310 mg/kg

LD₅₀ Dermal - Rat - 7000 mg/kg

Corrosion/Irritation:

Skin : Skin irritation 2; H315 = Causes skin irritation
: Rabbit, skin: slightly irritant but not relevant for classification (OECD 404)

Eyes : Eye damage/irritation: Eye Damage 1; H318 = causes serious eye damage
: Rabbit, eye: irritant

Carcinogenicity : IARC, NTP, OSHA, ACGIH: *Not listed* **Sensitization** : No data available **Muta-**

genicity : No data available. **Reproductive Effects** : No data available.

Teratogenic Effects : No data available.

Routes of Exposure : Eyes, Skin, Inhalation, Ingestion

Reproductive toxicity : Based on available data, the classification are not met

: NOAEL (P) Rat, oral (male): 275 mg/kg bw/d

: NOAEL (P) Rat, oral (female): 310 mg/kg bw/d

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met

NOAEL Rat, oral: > 500 mg/kg bw/d (OECD 453)

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 : May be 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 : approximately 5%/28 d. Not readily biodegradable (according to OECD criteria)
22 - 23%/28 d. (OECD 301D). Poorly biodegradable.

Bioaccumulative

Potential : Potential is low. Secondary poisoning via the food chain is unlikely to occur

Terrestrial Ecotoxicity : This material can be harmful or fatal to contaminated plants or animals, especially if large volumes are released into the environments.

Aquatic Ecotoxicity (Acute)

Fish Toxicity : Cyprinodon variegatus: - LC₅₀ 8132 mg/L/96h (OECD 203)

: Ictalurus punctatus: LC₅₀ 1212 mg/L/96h (OECD 203)

: Oncorhynchus mykiss: LC₅₀ 23/mg/L/60d

: Oncorhynchus mykiss: LC₅₀ 23 mg/L/60d

Aquatic Invertebrates : Daphnia magna (Big Water Flea) EC₅₀ 297 mg/L/48h

: Daphnia magna (Big Water Flea) NOEC >= 25 mg/L/28d

: Acartia tonsa: EC50 94 mg/L/48h

: Crassostrea virginica: NOEC 95 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	3265	Corrosive Liquid, Acidic, Organic, N.O.S. (Amino trimethylene phosphonic acid)	8	III	Corrosive Sticker
IMDG	3265	Corrosive Liquid, Acidic, Organic, N.O.S. (Amino trimethylene phosphonic acid)	8	III	Corrosive Sticker
IATA	3265	Corrosive Liquid, Acidic, Organic, N.O.S. (Amino trimethylene phosphonic acid)	8	III	Corrosive Sticker

15. Regulatory Information:

U.S. FEDERAL REGULATIONS:

TSCA: CAS# 6419-19-8 is 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: Immediate (Acute) Health Hazard

Canadian WHMIS Classification: D2(B) - Materials causing other toxic effects; E—Corrosion Material

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

California Proposition 65: No significant risk level

16. Other Information:

HMIS and NFPA Rating Scale:

HMIS: Hazardous Materials Identification System

NFPA: National Fire Protection Association

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

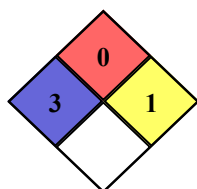
HMIS Rating:*

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	C

*HMIS Key:

HEALTH 3—Serious
FLAMMABILITY 0 - Minimal
PHYSICAL HAZARD 1 - Slight
PERSONAL PROTECTION C — Gloves + Safety Goggles + Chemical Apron

NFPA Rating:*



*NFPA Key:

HEALTH 3 - Serious
FLAMMABILITY 0 - Slight
REACTIVITY 1 - Slight
SPECIFIC HAZARD —None

Revision Date: October 29, 2018

Reasons for Revision: Updated Section 9

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