

Section 1. Product and Company Identification

Product Name Amino trimethylene phosphonic acid
CAS Number Mixture

Parchem - fine & specialty chemicals
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EMERGENCY RESPONSE NUMBER
CHEMTEL
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Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

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)

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

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

Section 3. Composition / Information on Ingredients

Common Name	Amino trimethylene phosphonic acid
Synonym(s)	ATMP, Aminotris (Methanephosphonic Acid); Nitrilotrimethylenephosphonic Acid; Nitrilotris (Methylene) Triphosphonic Acid
Formula	$C_3H_{12}NO_9P_3$
CAS Number	Mixture

COMPONENT	CAS NUMBER	CONCENTRATION
1-Hydroxy Ethylidene 1,1-diphosphonic Acid	6419-19-8	48 - 52%
Phosphonic Acid	13598-36-2	< 4%

Section 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.



Section 5. Firefighting 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 (NO_x), 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 firefighting 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.

Section 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.

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.

Section 7. Handling and Storage

Handling: 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.

Section 8. Exposure Controls / 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 IDLH
		STEL	TWA	TWA	STEL	TWA	STEL	
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	3 mg/m ³	3 mg/m ³	3 mg/m ³			1000 mg/m ³



Exposure Controls and Personal Protection

Information about Amino trimethylene phosphonic acid

DNEL/DMEL

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: $\geq 1.38 \text{ mg/kg bw/d}$

Information about Amino trimethylene phosphonic acid

PNEC

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 mg/kg food and feedstuffs

Section 9. Physical and Chemical Properties

Appearance: Clear Liquid

Odor: Perceptible, aromatic

Odor threshold: Not available

Color: Colorless to Pale Yellow

pH: at 25°C, 10 g/l: ≤ 2

Melting Point: -12 °C

Freezing Point: Not available

Boiling Range: >105 °C

Flash Point: Not combustible

Ignition Temp.: No data available

Thermal Decomposition: 178°C

Evaporation Rate: < 1 (n-Butyl Acetate = 1)

Lower Explosive Limit: Not available

Upper Explosive Limit: Not available

Vapor Pressure: Not available

Vapor Density: (Air =1): 10.3

Specific Gravity: 1.32 - 1.36 @ 20 °C



Solubility: Soluble
Partition Coefficient n-octanol/water: -3.53
Auto Ignition Temp.: Not available
Molecular Weight: 299.05

Section 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.

Section 11. Toxicological Information

Acute Oral Toxicity

LD50 Oral - Rat: > 2910 mg/kg

Acute Inhalation Toxicity

LC50 Inhalation: No data available

Acute Dermal Toxicity

LD50L: 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

Mutagenicity: 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 criteria 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.

Section 12. Ecological Information

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

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.



Section 14. Transport Information

US DOT

UN No.: 3265

Proper Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (Amino trimethylene phosphonic acid)

UN Class: 8

Packing Group: III

Label: Corrosive Sticker

IMDG

UN No.: 3265

Proper Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (Amino trimethylene phosphonic acid)

UN Class: 8

Packing Group: III

Label: Corrosive Sticker

IATA

UN No.: 3265

Proper Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (Amino trimethylene phosphonic acid)

UN Class: 8

Packing Group: III

Label: Corrosive Sticker

Section 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

HMIS Rating

HEALTH: 3

FLAMMABILITY: 0

PHYSICAL HAZARD: 1

PERSONAL PROTECTION: C



NFPA Rating
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 1

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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