



SAFETY DATA SHEET

version:1.2

Date: 19/05/2025

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No.2015/830

Amino trimethylene phosphonic acid(ATMP), aqueous solution

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Amino trimethylene phosphonic acid (ATMP), aqueous solution

1.2 Relevant identified uses of the substance or mixture and uses advised against

General use: Chemical basic material

Identified uses: **Industrial use:**

Use at industrial site -Cleaning products

Industrial:

-Manufacture

-Formulation into mixture and for the production of substances

-Anti-scalant, complexing agent, stabiliser for hydrogen peroxide in cleaning products

-Industrial use of cleaning agent

-Anti-scalant, complexing agent in industrial water treatment

-Metal surface treatment products

-Anti-scalant in oilfield water systems

-Industrial use of coatings and paints

- Anti-scalant and bleaching agent in the paper industry

-Anti-scalant and bleaching agent in the textile industry

-Anti-scalant in water desalination systems

-Manufacture of ceramics

Professional:

-Professional use of cleaning agent

-Cosmetics, personal care products

-Professional use of coatings and paints

-Agrochemical uses

Consumer:

-Consumer use of cleaning agent

-Cosmetics, personal care products

-Consumer use coatings and paints

-Agrochemical uses

1.3 Details of the supplier of the safety data sheet

Company : Jinan Huashihang Chemical Co., Ltd

No.36, South Gongye Road

High-Tech Zone, Jinan City, China

Telephone : +86-16666563950

E-mail : sales@hshindustry.com

Web : www.hshindustry.com

1.4 Emergency telephone

Emergency Phone # : +86-16666563950

CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Met. Corr. 1;H290May be corrosive to metals.

Eye Irrit. 2; H319

Causes serious eye irritation.

2.2 Label elements

Labelling (CLP)

Signal word:



Warning

Hazard statements: H290 May be corrosive to metals.

H319 Causes serious eye irritation.

Precautionary Statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P234 Keep only in original packaging.

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.

P337+P313 If eye irritation persists: Get medical advice/attention.

Special labelling

Text for labelling: Contains Nitrilotrimethylenetris(phosphonic acid).

2.3 Other hazards

A corrosive effect cannot be ruled out because of the pH value.

Results of PBT and vPvB assessment:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

SECTION 3: Composition / information on ingredients

3.1 Substances:

Amino trimethylene phosphonic acid (ATMP), aqueous solution

Chemical characterisation or Formula: 48-52% C₃H₁₂NO₉P₃ =N(CH₂P(=O)(OH)₂)₃

CAS NO.: 6419-19-8

EC No.: 229-146-5

3.2 Mixtures

Hazardous ingredients:

Ingredient	Content	Classification
Amino Trimethylene Phosphonic Acid	48.00-52.00%	Met.Corr. 1; H290. Eye Irrit. 2; H319.

Full text of H- and EUH-statements: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Move victim to fresh air. In case of respiratory difficulties seek medical attention.

Following skin contact: After contact with skin, wash immediately with plenty of water.

Change contaminated clothing. In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses. Subsequently seek the immediate attention of an ophthalmologist.

After swallowing: Rinse mouth and drink large quantities of water. Consult physician.

Never give anything by mouth to an unconscious person.

Do not induce vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire fighting measures**5.1 Extinguishing media**

Suitable extinguishing media:

Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

Extinguishing which must not be used for safety reasons.

Full water jet

5.2 Special hazards arising from the substance or mixture

Fires in the immediate vicinity may cause the development of dangerous vapours.

In case of fire may be liberated: Phosphorus oxides, phosphine, nitrogen oxides (NO_x), carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighter

In case of surrounding fires: Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: 2X

Cool endangered containers with water jetspray. Use water spray jet to knock down vapours. Do not allow water used to extinguish fire to enter drains, ground or waterways.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid contact with the substance. Wear suitable protective clothing. Provide adequate ventilation. Do not breathe vapour/aerosol. Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

6.2 Environmental precautions

Do not allow to penetrate into soil, water bodies or drains.

6.3 Methods and material for containment and cleaning up

In case of spills of large quantities: Dam spills and pump to remove.

Neutralizing agent: Sodium carbonate or lime.

Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder.

Store in special closed containers and dispose of according to ordinance. Wash spill area with plenty of water.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.

Do not breathe vapour/aerosol. Avoid contact with skin, eyes, and clothing.

Thorough skin-cleansing after handling the product.

Wear suitable protective clothing. Take off contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Store container tightly closed in a dry and cool place.

Storage temperature $> -10\text{ }^{\circ}\text{C}$. Shelf life: > 24 months.

Qualified materials: Glass, PVC, polypropylene, polyethylene.

Unsuitable materials: Metals (steel, aluminium).

Hints on joint storage:

Do not store together with oxidizing agents, alkalis or caustic substance(s).

Further details:

Containers will enclose product residues and vapours after being emptied. Dispose of in accordance with the regulations.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Additional information:

Contains no substances with occupational exposure limit values.

DNEL/DMEL: Information about Amino trimethylene phosphonic acid:

Systemic effects:

DNEL long-term, workers, inhalative: $\geq 9.7\text{ mg/m}^3$,

DNEL short-term, workers, inhalative: $\geq 9.7\text{ mg/m}^3$

DNEL long-term, workers, dermal: $\geq 2.75\text{ mg/kg bw/d}$

DNEL short-term, workers, dermal: $\geq 2.75\text{ mg/kg bw/d}$

DNEL long-term, consumers, inhalative: $\geq 2.39\text{ mg/m}^3$

DNEL short-term, consumers, inhalative: $\geq 2.39\text{ mg/m}^3$

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: ≥ 1.38 mg/kg bw/d

DNEL short-term, consumers, oral: ≥ 1.38 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 mg/kg food and feedingstuffs

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.

Personal protection equipment

Occupational exposure controls

Respiratory protection:

Good general ventilation should be sufficient for most conditions.

If vapours form, use respiratory protection.

Use filter type A (-P2) according to EN 14387.

Hand protection:

Protective gloves according to EN 374.

Glove material: Nitrile rubber or butyl caoutchouc (butyl rubber) (≥ 0.5 mm)

Breakthrough time: > 480 min

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:

Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Work place should be equipped with a shower and an eye rinsing apparatus.

Do not breathe vapour/aerosol. Avoid contact with skin and eyes.

Take off contaminated clothing and wash it before reuse.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties



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Appearance: Physical state at 20 °C and 101.3 kPa: liquid

Colour:clear

Odour: perceptible, aromatic

Odour threshold: No data available

pH value: No data available

Melting point/ freezing point: -12°C

Initial boiling point and boiling range: >105 °C

Flash point/flash point range: not combustible

Evaporation rate: No data available

Flammability:No data available

Explosion limits: No data available

Vapour pressure: No data available

Vapour density: No data available

Density: No data available

Solubility: No data available

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: No data available

Decomposition temperature: 178°C

Viscosity, kinematic: No data available

Explosive properties: No data available

Oxidizing characteristics: No data available

9.2 Other information

Additional information: No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

May be corrosive to metals.

10.2 Chemical stability

Stable under recommended storage conditions.

Shelf life:>24 months (storage temperature >-10°C).

10.3 Possibility of hazardous reactions

Reacts with steel and aluminium.

10.4 Conditions to avoid

Protect from excessive heat.

10.5 Incompatible materials

Strong oxidizing agents,alkalis,caustic substance(s),metals.

10.6 Hazardous decomposition products

Phosphorus oxides, phosphine, nitrogen oxides (NO_x), carbon monoxide and carbon dioxide.

Thermal decomposition: 178°C

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects:

The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Rabbit, skin: slightly irritant but not relevant for classification (OECD404).

Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.

Rabbit, eye: irritant.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Based on available data, the classification criteria are not met.

Guinea pig: not sensitising (OECD 406).

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

In vitro mutagenicity:

Ames test: negative.

Gene-mutations mammalian cells: negative.

Carcinogenicity: Based on available data, the classification criteria are not met.

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.

Effects on or via lactation: Lack of data.

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).

Aspiration hazard: Lack of data.

Other information:

Information about Nitrilotrimethylenetris(phosphonic acid):

LD50 Rat, oral: 2910 mg/kg

LD50 Rabbit, dermal: >6310 mg/kg

Symptoms

In case of ingestion: May be harmful if swallowed.

After eye contact: Causes serious eye damage.

SECTION 12: Ecological information**12.1 Toxicity**

Aquatic toxicity: Forms corrosive mixtures with water even if diluted.

Harmful effects on water organisms by modification of pH-value.

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 297 mg/L/48h.

NOEC Daphnia magna (Big water flea): $\geq$ 25 mg/L/28d.

Fish toxicity:

LC50 Cyprinodon variegatus: 8132 mg/L/96h (OECD 203).

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

LC50 Oncorhynchus mykiss: 160 mg/L/96h.

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

Acute toxicity marine invertebrates:

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

NOEC Crassostrea virginica: 95 mg/L/96h.

12.2 Persistence and degradability

Further details:

Biodegradation:

approx. 5% / 28 d. Not readily biodegradable (according to OECD criteria).

22 - 23% / 28 d (OECD 301D). Poorly biodegradable.

Effects in sewage plants: EC0 Bacteria in activated sludge: 200 mg/L/30 min.

12.3 Bioaccumulative potential

Bioaccumulative potential low.

Secondary poisoning via the food chain is unlikely to occur.

Partition coefficient: n-octanol/water: No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Product

Waste key number: 06 01 04* =Phosphoric and phosphorous acid

* = Evidence for disposal must be provided.

Recommendation: Special waste. Dispose of waste according to applicable legislation.

Product may not be released into water without pre-treatment (biological sewage plant).

Contaminated packaging

Recommendation: Containers will enclose product residues and vapours after being emptied.

Dispose of waste according to applicable legislation.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**14.1 UN number**

ADR/RID, IMDG, IATA-DGR:

UN 3265

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
(Amino trimethylene phosphonic acid)

14.3 Transport hazard class(es)

ADR/RID: Class 8, Code: C3

IMDG: Class 8, Subrisk -

IATA-DGR: Class 8

14.4 Packing group

ADR/RID, IMDG, IATA-DGR:

III

14.5 Environmental hazards



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Marine pollutant: no

14.6 Special precautions for user

Land transport (ADR/RID)

Warning board:

ADR/RID: Kemmler-number 80, UN number UN 3265

Hazard label: 8

Special provisions: 274

Limited quantities: 5 L

EQ: E1

Contaminated packaging - Instructions: P001 IBC03 LP01 R001

Special provisions for packing together: MP19

Portable tanks - Instructions: T7

Portable tanks - Special provisions: TP1 TP28

Tank coding: L4BN

Tunnel restriction code: E

Sea transport (IMDG)

EmS: F-A, S-B

Special provisions: 223,274

Limited quantities: 5L

Excepted quantities: E1

Contaminated packaging - Instructions: P001,LP01

Contaminated packaging - Provisions: -

IBC-Instructions: IBC03

IBC-Provisions: -

Tank instructions -IMO: -

Tank instructions -UN: T7

Tank instructions -Provisions: TP1,TP28

Stowage and handling: Category A. SW2

Segregation: SG36 SG49

Properties and observations: Causes burns to skin, eyes and mucous membranes.

Segregation group: 1

Air transport (IATA)

Hazard label: Corrosive

Excepted Quantity Code: E1



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Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y841 - Max. Net Qty/Pkg. 1 L

Passenger and Cargo Aircraft: Pack.Instr. 852 - Max. Net Qty/Pkg. 5 L

Cargo Aircraft only: Pack.Instr. 856 - Max. Net Qty/Pkg. 60 L

Special provisions: A3 A803

Emergency Response Guide-Code (ERG): 8L

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations - Great Britain

Hazchem-Code: 2x

No data available

National regulations-EC member states

Labelling of packaging with <= 125mL content

Signal word: **Warning**

Hazard statements: not applicable

Precautionary Statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 3

15.2 Chemical Safety Assessment

For the following substances of this mixture a chemical safety assessment has been carried out: Amino trimethylene phosphonic acid

SECTION 16: Other information

Further information

Wording of the H-phrases under paragraph 2 and 3:

H290 = May be corrosive to metals.

H302 = Harmful if swallowed.

H314 = Causes severe skin burns and eye damage.

H319 = Causes serious eye irritation.

Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Water ways

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

AS/NZS: Australian Standards/New Zealand Standards

CAS: Chemical Abstracts Service

CFR: Code of Federal Regulations

CLP: Classification, Labelling and Packaging

DMEL: Derived minimal effect level

DNEL: Derived no-effect level



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EC: Effective Concentration

EC50: Effective Concentration 50%

EC:European Community

EN: European Standard

EU:European Union

IATA: International Air Transport Association

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IMDG Code: International Maritime Dangerous Goods Code

LC50: Median lethal concentration

LD50: Lethal dose 50%

MARPOL:Maritime Pollution: The International Convention for the Prevention of Pollution from Ships

NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

OSHA: Occupational Safety and Health Administration

PBT: Persistent, bioaccumulative and toxic

PNEC: Predicted no-effect concentration

PVC: Polyvinyl chloride

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail

RMM: Risk Management Measures

STP:Sewage Treatment Plant

vPvB: Very persistent and very bioaccumulative

Reason of change: Exposure scenarios attached to this safety data sheet

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Jinan Huashihang Chemical Co., Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.