

ATMP 50% Solution

1. Identification

Product	ATMP 50% Solution
CAS / EC	6419-19-8 / 229-146-5
Use	Aqueous aminotrimethylenephosphonic acid for metal-ion sequestration and scale-control formulations.
Uses advised against	Unassessed consumer, medical or other applications outside the qualified grade and intended use.
Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Contact	+86-21-54265599 sales@zxchem.com.cn www.zxchem.com
Emergency contact	+86-21-54265599; office hours, China time UTC+8. For an urgent incident, contact local emergency services.
Scope	Reference safety information for ATMP 50% Solution. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazard identification

Classification	Metal corrosion 1; skin corrosion 1; serious eye damage 1.
Signal word	Danger
Pictograms	GHS05
Hazard statements	H290: May be corrosive to metals. H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage.
Prevention	P264: Wash exposed skin after handling. P280: Wear suitable protective gloves, clothing and eye protection. P234/P390: Use compatible original packaging; contain spills to limit material damage.
Response	Follow the exposure-specific first-aid measures in Section 4. Remove contaminated clothing. Seek urgent advice for severe symptoms.
Storage / disposal	Keep closed under the conditions in Section 7. Dispose through an authorized waste route under local rules.
Other hazards	Dust, splashes, process conditions and decomposition can create exposure risks not represented by the commercial assay.



3. Composition/information on ingredients

ATMP 50% Solution / component	6419-19-8; EC 229-146-5
Supply concentration or grade	48–52% as ATMP
Composition scope	Reference classification and UN entry cover an approximately 50% aqueous ATMP concentrate. The supplied TDS permits a different maximum residual phosphorous-acid content; this reference does not certify the hazard assessment or composition of an individual delivery.
Carrier	Aqueous solution; water CAS 7732-18-5. The reference does not certify unlisted residual constituents.

4. First-aid measures

Eye contact	Rinse eyes immediately with water for at least 15 minutes; remove contact lenses when easily possible and continue rinsing. Obtain urgent medical attention.
Inhalation	Move to fresh air without exposing rescuers. Seek medical attention for persistent or developing symptoms.
Skin contact	Remove contaminated clothing and rinse thoroughly with water. Obtain urgent medical care for burns or toxic exposure.
Ingestion	Rinse the mouth. Do not induce vomiting or give anything by mouth to an unconscious person. Obtain immediate poison-center or medical advice.
Symptoms	Corrosive contact can cause burns and irreversible eye injury.
Immediate treatment	Urgent medical assessment is required after serious exposure. Treat symptoms; rescuers must avoid secondary exposure.

5. Fire-fighting measures

Media / specific hazards	Aqueous liquid. Use water spray, foam, dry chemical or carbon dioxide as appropriate to the surrounding fire. Heated containers can rupture; hazardous decomposition may include carbon, nitrogen and phosphorus oxides.
Protection	Use full protective equipment and self-contained breathing apparatus. Fight from a safe position; contain contaminated firewater and cool exposed containers when safe.

6. Accidental release measures

Personal / environmental precautions	Restrict entry, avoid exposure and prevent environmental release. Use the controls and protection in Section 8.
Containment / cleanup	Exclude unprotected personnel, ventilate and contain the liquid. Use a compatible inert, noncombustible absorbent and transfer to labeled waste containers; prevent entry to drains.
References	See Sections 7, 8 and 13 for handling, protection and disposal.

7. Handling and storage

Handling	Avoid contact and inhalation; maintain ventilation and good hygiene. Use suitable equipment and prevent chemical contamination.
Storage	Keep closed in a cool, ventilated area with corrosion-resistant containment, away from incompatible bases and oxidizers.
Incompatibilities	Avoid strong heating, incompatible metals, strong bases and oxidizers. Acid-base reactions can release heat; use corrosion-resistant equipment. Stable under the recommended conditions.
Specific end use	Aqueous aminotrimethylenephosphonic acid for metal-ion sequestration and scale-control formulations.

8. Exposure controls/personal protection

Control parameters	No supply-specific occupational exposure limit or DNEL/PNEC is established by this record. Apply local substance and particulate exposure limits where relevant.
Engineering and personal protection	Use closed transfer or local extraction. Provide an eyewash and safety shower. Wear chemical-resistant gloves selected for the actual exposure, protective clothing and splash goggles. Add a face shield where splash exposure is possible. For airborne mist or vapor, use a suitable approved respirator selected through a workplace risk assessment; emergency or unknown atmospheres require independent air supply.
Hygiene / environmental control	Wash after handling; separate contaminated clothing. Contain product and process effluent; do not eat or drink in handling areas.

9. Physical and chemical properties

Physical state / appearance	Clear, colorless to pale yellow liquid
Formula / formula weight	C3H12NO9P3; 299.07 g/mol; component identity
pH, 1% solution	1.5–2.5
Density, 20°C	1.28–1.38 g/cm ³
Odor / odor threshold	No supply-grade value provided.
Boiling / decomposition point	No supply-grade limit provided.
Flammability / flash point	No supply-grade test value provided; see fire and reactivity information in Sections 5 and 10.
Vapor pressure / density	No supply-grade value provided.
Partition coefficient / autoignition	No supply-grade value provided.

10. Stability and reactivity

Reactivity / stability / reactions	Avoid strong heating, incompatible metals, strong bases and oxidizers. Acid-base reactions can release heat; use corrosion-resistant equipment. Stable under the recommended conditions.
Conditions and materials to avoid	Follow the incompatible-material and storage requirements in Section 7.
Decomposition products	See Section 5. No normal-storage decomposition is indicated under the recommended conditions.

11. Toxicological information

Routes / effects	Corrosive contact can cause burns and irreversible eye injury. Reference component oral LD50: ATMP 2,910 mg/kg; phosphorous acid 1,580 mg/kg. These are component data, not a test on the delivered concentrate.
Other endpoints	Supply-batch sensitization, mutagenicity, carcinogenicity, reproduction and repeated-dose testing has not been provided. This does not override the classifications and target organs listed in Section 2.
Mixture assessment	Reference-substance or component results are not delivered-batch analytical or toxicological results.

12. Ecological information

Aquatic toxicity / behavior	Reference ATMP component: fish LC50 160 mg/L, 96 h; crustacean LC50 94 mg/L, 48 h. Prevent releases that change water pH. Whole-supply-mixture biodegradation, mobility and bioaccumulation data have not been provided.
Other environmental endpoints	Supply-batch PBT/vPvB, endocrine-disruption, persistence, degradation, mobility and bioaccumulation assessments have not been provided. Do not infer absence of effects from missing data.

13. Disposal considerations

Product and residues	Characterize waste under applicable local rules and use a licensed waste contractor. Do not discharge chemical residues or contaminated process water to drains.
Contaminated packaging	Do not reuse contaminated packaging for unrelated purposes. Handle retained material with the same protection as the product and use an authorized disposal or return route.

14. Transport information

ADR / RID	UN 3265; CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (aminotrimethylenephosphonic acid); Class 8; packing group II
IMDG	UN 3265; CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (aminotrimethylenephosphonic acid); Class 8; packing group II
IATA	UN 3265; CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (aminotrimethylenephosphonic acid); Class 8; packing group II
Environmental hazards	No transport environmental-hazard designation in the matched reference.
Special precautions	Use authorized packaging, labels and trained personnel for the applicable mode. Quantity exemptions depend on the consignment and are not assumed.
Bulk transport	The packaged-product reference does not establish authorization for maritime bulk transport.
Scope	Transport entries apply to the reference identity, concentration and form described in Section 3. Changes in composition require reassessment.

15. Regulatory information

Classification framework	GHS/CLP reference classification is given for the material in Section 3. Local worker-protection, labeling, transport, environmental and end-use requirements apply.
Registration / use status	No supply-specific registration number, market authorization or end-use certification is established by this reference record.
Chemical safety assessment	No supply-formulation chemical safety assessment is supplied by ZXCHEM in this record.

16. Other information

Revision date	2026-10-13; initial ZXCHEM reference safety document, version 2026.1.
Abbreviations	ADR/RID: road/rail dangerous goods; IMDG: maritime dangerous goods; IATA: air dangerous goods; PG: packing group; LD50/LC50: median lethal dose/concentration; STOT: specific target organ toxicity.
Use of information	Use together with the grade TDS and a workplace assessment. Concentration, solvent, impurity or physical-form changes require applicable safety information.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

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