

Safety Data Sheet: PBTC

1. Identification

Product	PBTC; CAS 37971-36-1; EC 253-733-5
Use	Industrial scale-control, sequestration and cleaning formulations.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for PBTC. 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. Hazards Identification

Classification	Metal corrosivity Category 1; acute toxicity Category 5 (oral, dermal, inhalation); skin corrosion Category 1C; eye damage Category 1. Category 5 entries are reported in the selected regional reference.
Signal word / symbols	Danger; GHS05
Hazard statements	H290: potential metal corrosion. H303/H313/H333: may be harmful through ingestion, skin contact or inhalation. H314: severe skin and eye burns.
Prevention	Use adequate ventilation; avoid inhaling mist. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	Reference: PBTC CAS 37971-36-1 at 48–52%, phosphorous acid CAS 13598-36-2 below 1%, phosphoric acid CAS 7664-38-2 at ≤0.2%, water balance. These are reference formulation bands, not batch-certified proportions.
Supply grade	≥50% aqueous solution
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to mist.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Obtain urgent treatment for chemical burns.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Obtain urgent medical care.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain emergency medical attention.
Effects / treatment	Acidic solution can cause severe burns and eye injury. Inhaled mist can damage the respiratory tract. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use water spray, foam, dry chemical or carbon dioxide suited to the surrounding fire.
Hazards	Fire or heating can produce carbon and phosphorus oxides; reaction with metals can release hydrogen.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the spill and provide ventilation. Use chemical-resistant gloves and eye protection; avoid contact and mist exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Stop the leak if safe. Absorb liquid with a compatible inert material and collect in closed labelled containers. Do not wash into drains.

7. Handling and Storage

Handling	Use controlled transfer and effective ventilation. Avoid generating mist and prevent contamination of the work area.
Storage	Store closed in a cool, ventilated area away from sunlight and extremes of temperature. Protect from freezing and keep away from oxidizers, alkalis and unsuitable metals. Use corrosion-resistant containers.
Incompatibilities	Strong oxidizers, alkalis, aluminium, mild steel and other unsuitable metals.
Specific use	Evaluate compatibility and appropriate operating conditions in the complete formulation before industrial use.

8. Exposure Controls / Personal Protection

Exposure limits	Reference phosphoric-acid component TWA: 1 mg/m ³ in Australia and New Zealand. Apply local requirements and control acidic mist.
Engineering controls	Use local extraction where mist can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	Clear, colorless to pale yellow liquid
Formula / molecular weight	C7H11O9P / 270.13 g/mol
pH, reference	1.0–2.0 at 1% and 25°C
Boiling point, reference	≥100°C
Freezing point, reference	–15°C
Water solubility	Soluble
Other properties	Product-specific values for odor threshold, vapor pressure, partition coefficient, autoignition temperature and viscosity are not supplied by the selected reference set. No values are inferred.

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Strong oxidizers, alkalis, aluminium, mild steel and other unsuitable metals.
Decomposition	Fire or heating can produce carbon and phosphorus oxides; reaction with metals can release hydrogen.

11. Toxicological Information

Exposure effects	Acidic solution can cause severe burns and eye injury. Inhaled mist can damage the respiratory tract.
Reference classification	Metal corrosivity Category 1; acute toxicity Category 5 (oral, dermal, inhalation); skin corrosion Category 1C; eye damage Category 1. Category 5 entries are reported in the selected regional reference.
Toxicological data	Reference oral and dermal rat LD50 values are both >2,000 mg/kg. Corrosion hazards remain significant; these values are not safe exposure thresholds.

12. Ecological Information

Environmental effects	Reference fish LC50 >3,440 mg/L at 48 h; Daphnia EC50 >265 mg/L at 24 h; algae EC50 140 mg/L at 72 h. Prevent untreated release.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Class 8 — Corrosive
UN number	UN 3265
Shipping name	Corrosive liquid, acidic, organic, n.o.s. (2-phosphonobutane-1,2,4-tricarboxylic acid)
Class / packing group	ADG / DOT / IMDG / IATA: Class 8, packing group III. IMDG marine pollutant: no.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	PBTC; CAS 37971-36-1; EC 253-733-5
HS reference	293149; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish authorization for a finished disinfectant or biocidal product.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H290: potential metal corrosion. H303/H313/H333: may be harmful through ingestion, skin contact or inhalation. H314: severe skin and eye burns.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.2; prepared 2026-10-06. Customer-document branding and title corrected; technical safety data retained.
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.

Revision: 2026.2 | Revision date: 2026-10-06