

WATER TREATMENT SERVICES

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WTSCT-310

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME: **WTSCT-310**
CHEMICAL DESCRIPTION: Phosponate solution
PRODUCT CLASS: Water Treatment
VERSION: 6-20-06

SECTION 2: INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %	OSHA PEL	ACGIH TLV
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)	2809-21-4	58-62	None established	None established
Phosphonic acid	13598-36-2	≤4.0	None established	None established

SECTION 3: HAZARDS IDENTIFICATION

*****EMERGENCY

OVERVIEW*****

Clear, colorless to pale yellow liquid.

DANGER!

Corrosive to eyes.

May cause skin irritation.

May be harmful if ingested.

May cause respiratory tract irritation.

PRIMARY ROUTES OF ENTRY: Eye contact, skin contact, inhalation of mist, and ingestion

TARGET ORGANS: Eye, skin, mucous membranes, bone, and blood

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin contact may aggravate existing skin disease.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: Corrosive. Contact causes redness, burns, tissue destruction, and permanent damage to the cornea.

SKIN CONTACT: Prolonged contact may cause skin irritation.

INGESTION: Due to the low pH of this product, ingestion would be expected to cause irritation of the mucous membranes of the mouth, throat, esophagus, stomach, and intestine. Nausea and vomiting may occur.

INHALATION: Inhalation of product mist may cause irritation of respiratory system.

SUBCHRONIC, CHRONIC: Some blood effects have been produced by HEDP in chronic feeding studies with rats. A product containing 60% HEDP was administered to beagle dogs at dietary concentrations as high as 10,000 ppm for 90 days with no adverse hematological, biochemical, or histopathological effects.

Numerous publications in the scientific literature discuss the effects of HEDP related to bone resorption in tissue and cell culture, and in animals. The effects of HEDP related to bone mineralization, calcium absorption, and metabolism of calcium and phosphate have also been evaluated.

CARCINOGENICITY:

NTP: No ingredients listed in this section

IARC: No ingredients listed in this section

OSHA: No ingredients listed in this section

SECTION 4: FIRST AID MEASURES

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids to ensure complete rinsing. Seek medical aid immediately.

SKIN CONTACT: In case of contact, in a timely manner, remove contaminated clothing and wash the affected area thoroughly with plenty of soap and water. Seek medical aid if irritation occurs. Wash clothing before reuse.

INGESTION: If swallowed, do NOT induce vomiting. If victim is conscious and alert give large quantities of water. Seek medical. Never give anything by mouth to an unconscious person.

INHALATION: If exposure by inhalation is suspected, remove victim to fresh air. If breathing stops, give artificial respiration. If breathing is difficult, have a trained medical person give oxygen. Seek medical aid if any respiratory irritation or breathing difficulties occur.

SECTION 5: FIRE-FIGHTING MEASURES

FLASHPOINT: >200 °F (>93 °C) [TCC]

This product is not by definition a "flammable liquid" or a "combustible liquid".

LOWER FLAMMABLE LIMIT: Not applicable

UPPER FLAMMABLE LIMIT: Not applicable

AUTO-IGNITION TEMPERATURE: Not available

EXTINGUISHING MEDIA: Use extinguishing media appropriate for the surrounding fire.

FIRE-FIGHTING INSTRUCTIONS: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.

FIRE & EXPLOSION HAZARDS: Product emits toxic and irritating gases and fumes under fire conditions. Contact with metals may evolve flammable hydrogen gas.

DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce oxides of carbon and phosphorus, acids of phosphorus, and phosphine.

NFPA RATINGS: Health = 3 Flammability = 0 Reactivity = 1 Special Hazard = None

Hazard rating scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Ventilate the spill area and keep unnecessary and unprotected people away from the spill site.

Wear appropriate personal protective equipment as specified in Section 8, contain the spill, and recover as much liquid as possible. Dilute the residue with water and then neutralize it with soda ash, sodium bicarbonate or lime. Collect the neutralized residue on an inert absorbent (such as dry sand or earth), and place the used absorbent in a suitable container for disposal. **DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER.** Decontaminate tools and equipment following clean-up.

Dispose of recovered product, if unusable, and used absorbent according to federal, state, and local regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING:

Avoid contact with eyes, skin, and clothing.
Avoid breathing vapor or mist.
Use with adequate ventilation.
Wash thoroughly after handling.
Keep containers closed when not in use.

STORAGE:

Store in a cool, dry, well-ventilated area away from incompatible materials.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE/FACE PROTECTION: Chemical splash goggles and face shield.

SKIN PROTECTION: Chemical resistant gloves and body covering clothing

RESPIRATORY PROTECTION: If airborne concentrations become irritating, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

ENGINEERING CONTROLS: A system of local and/or general exhaust is recommended to keep employee exposures below irritating levels or airborne exposure limits, whichever is lower. Local exhaust ventilation is preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the latest edition of the ACGIH document *Industrial Ventilation, A Manual of Recommended Practices* for details.

WORK PRACTICES: Eye wash station should be accessible in the immediate area of use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

pH: <0.5

pH (1% solution): 1.0

SPECIFIC GRAVITY: 1.43-1.47 g/mL

SOLUBILITY IN WATER: Complete

BOILING POINT: ~ 221 °F (~ 105 °C)

FREEZING POINT: ~ -40 °F (~ -40 °C)

VAPOR PRESSURE: 17 mm Hg @ 68 °F (20 °C)

VAPOR DENSITY: Not available

VISCOSITY: 64 cps @ 68 °F (20 °C)

APPEARANCE AND ODOR: Clear, colorless to pale yellow liquid with a mild characteristic odor

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Temperature at or greater than 392 °F (200 °C). At this temperature, the product can form flammable phosphine gas.

INCOMPATIBILITIES: Strong oxidizers and bases

DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce oxides of carbon and phosphorus, acids of phosphorus, and phosphine.

SECTION 11: TOXOLOGICAL INFORMATION

ON INGREDIENTS:

Test Material	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)	2,400 mg/Kg (60% solution)	>7,940 mg/Kg (60% solution)	Not available

SECTION 12: ECOLOGICAL INFORMATION

ON INGREDIENTS:

Test Material	Aquatic Toxicity Data
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)	48 hr LC50 (Daphnia magna): 527 mg/L 96 hr LC50 (Bluegill sunfish): 868 mg/L 96 hr LC50 (Rainbow trout): 368 mg/L

SECTION 13: DISPOSAL

RCRA STATUS: Discarded product, as sold, would be considered a RCRA Hazardous Waste based on the characteristic of corrosivity. The EPA Hazardous Waste Number is D002.

DISPOSAL: Dispose of in accordance with local, state, and federal regulations. Prevent product from entering streams or lakes.

SECTION 14: TRANSPORTATION

DOT CLASSIFICATION:
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
(contains 1-hydroxyethylidene-1,1-diphosphonic acid)
Primary Hazard Class/Division: 8
UN Number: UN 3265
Packing Group: III
Label: Corrosive

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Status: Hazardous

TSCA: The ingredients of this product are listed on the Toxic Substances Control Act
(TSCA) Chemical Substances Inventory.

CERCLA: EPA Hazardous Substances (40 CFR 302):
Chemical Name CERCLA Reportable Quantity (RQ)
No ingredients have a CERCLA RQ.

SARA TITLE III (Sections 302, 311, 312, and 313):

Section 302 Extremely Hazardous Substances (40 CFR 355):

Chemical Name
None

CAS#

RQ

TPQ

Section 311 and 312 Health and Physical Hazards:

Immediate
yes

Delayed
no

Fire
no

Pressure
no

Reactivity
no

Section 313 Toxic Chemicals (40 CFR 372):

Chemical Name
None

CAS Number

Percent by Weight

SECTION 16: OTHER INFORMATION

HMIS RATINGS: Health = 3 Flammability = 0 Reactivity = 1

Hazard Rating Scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

The preceding information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change, and the conditions of handling and use or misuse are beyond our control, Water Treatment Services makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein, and disclaims all liability for reliance thereon. User should satisfy himself that he has all current data relevant to his particular use.