

## Material Safety Data Sheet

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 1-Hydroxyethylidene-1,1-diphosphonic acid  
**Synonyms:** 1-Hydroxyethanediphosphonica, Etidronic acid  
**Company Identification:** PI Chemicals Ltd.  
Room 512, Building 1  
88 Cailun Road, Zhangjiang Hi-Tech park,  
Pudong New Area, Shanghai 201203, China  
**Telephone Number:** 86-21-58953700  
**Fax Number:** 86-21-58953701

### Section 2 - Product Information

**Catalog Number:** PI-21385  
**CAS Number:** 2809-21-4  
**MDL Number:** MFCD00070585  
**Purity:** Active ingredient (H<sup>+</sup>)%, 90%

### Section 3 - Physical and Chemical Properties

**Physical state:** Powder  
**Color:** White  
**Odor:** Odorless  
**Molecular Formula:** C<sub>2</sub>H<sub>8</sub>O<sub>7</sub>P<sub>2</sub>  
**Molecular Weight:** 206.03  
**Freezing/Melting Point:** Not available  
**Boiling Point:** Not available  
**Flash Point:** Not available  
**Autoignition Temperature:** Not available  
**Refractive Index (n<sub>D</sub>20):** Not available  
**Density:** Not available  
**Decomposition Temperature:** Not available  
**Solubility:** Soluble in water

### Section 4 - Hazards Identification

**Eye:** Causes eye irritation.  
**Skin:** Causes skin irritation. Harmful if absorbed through the skin.  
**Ingestion:** May be harmful if swallowed.

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

## **Section 5 - First Aid Measures**

**Eye:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.

**Ingestion:** Get medical aid immediately. Wash mouth out with water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

## **Section 6 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures.

**Materials to avoid:** Strong oxidizing agents, bases.

**Conditions to avoid:** Incompatible materials.

**Hazardous Decomposition Products:** Carbon monoxide, phosphorus oxides, carbon dioxide.

**Polymerization:** Will not occur.

## **Section 7 - Handling and Storage**

**Handling:** Avoid all direct contact with material. Wash thoroughly after handling. Have safety shower and eye wash available. Do not get in eyes, on skin, on clothing.

**Storage:** Store in cool, dry, well ventilated area above 0°C. Store in a tightly closed container.

## **Section 8 - Personal Protection**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## **Section 9 - Fire and Explosion Hazard Data**

**General Information:** As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

## **Section 10 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container.

### ***Section 11 - Toxicological Information***

**RTECS#:** CAS# 2809-21-4: SZ8562100.

**LD50/LC50:** RTECS#: None listed.

**Carcinogenicity:** 1-Hydroxyethylidene-1,1-diphosphonic acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Other:** The toxicological properties have not been fully investigated.

### ***Section 12 - Environmental information***

Not available.

### ***Section 13 - Disposal Consideration***

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

### ***Section 14 - Transport Information***

**ADR/RID:** UN 3265/II/8

**IMDG:** UN 3265/II/8

**IATA:** UN 3265/II/8

### ***Section 15 - Regulatory Information***

#### ***European/International Regulations***

European Labeling in Accordance with EC Directives

Hazard Symbols: Xi

Risk Phrases:

R 22 Harmful if swallowed.

R 34 Causes burns.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves.

WGK (Water Danger/Protection)

CAS#2809-21-4: 3

Canada

CAS#2809-21-4: Not available

**US Federal****TSCA**

CAS# 2809-21-4 is not listed on the TSCA Inventory. It is for research and development use only.

**Section 16 - Additional Information**

**MSDS Creation Date:** April 10, 2009

**Update:** Original

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