

Tetrapotassium Pyrophosphate MSDS

1. Product Name and Identification

Product Name: [Tetrapotassium Pyrophosphate](#)

CAS Number: 7320-34-5

Synonyms: TKPP, Potassium Pyrophosphate, Diphosphoric Acid Tetrapotassium Salt

Recommended Use: Industrial applications, including detergents, water treatment, food additives, or manufacturing processes.

Restrictions on Use: Not intended for pharmaceutical, agricultural, or personal care applications.

2. Composition/Ingredients

Chemical Name: Tetrapotassium Pyrophosphate

Molecular Formula: K₄P₂O₇

Molecular Weight: 330.34 g/mol

Concentration: 100% (pure substance)

3. Hazards Identification

Classification of the Substance:

- **Health Hazards:**
 - Causes serious eye irritation
 - May cause skin irritation
 - May cause respiratory tract irritation if inhaled

GHS Signal Word: Warning

Hazard Statements:

- H319: Causes serious eye irritation
- H315: Causes skin irritation
- H335: May cause respiratory irritation

Precautionary Statements:

- P264: Wash hands and skin thoroughly after handling
- P280: Wear protective gloves, clothing, and eye/face protection
- P305 + P351 + P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do
- P302 + P352: If on skin, wash with plenty of water

4. First Aid Measures

- **Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, ensuring eyelids are open. Seek medical attention if irritation persists.
- **Skin:** Wash affected area with soap and water. Remove contaminated clothing. Consult a doctor if skin irritation continues.
- **Inhalation:** Move the exposed person to fresh air. If breathing becomes difficult, provide oxygen and seek medical assistance.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek immediate medical attention.

5. Handling and Storage

Handling:

- Handle in a well-ventilated location.
- Avoid contact with skin, eyes, or clothing. Wear the recommended personal protective equipment.
- Do not inhale dust or fumes.

Storage:

- Store in a cool, dry, and well-ventilated area.
- Keep containers tightly closed when not in use and away from moisture or incompatible materials such as strong acids.

6. Exposure Controls/Personal Protection

Exposure Limits: No established occupational exposure limits.

Engineering Controls: Operate in an area with appropriate local exhaust ventilation or mechanical ventilation systems.

Personal Protective Equipment (PPE):

- **Eye/Face Protection:** Use chemical safety goggles or a face shield.
- **Skin Protection:** Wear protective chemical-resistant gloves and suitable clothing to prevent skin exposure.
- **Respiratory Protection:** Use an approved respirator when ventilation is inadequate, or where exposure levels are high.

7. Physical and Chemical Properties

Appearance: White, crystalline powder or granules

Odor: Odorless

Odor Threshold: Not available

pH: 10.5 – 11.0 (1% aqueous solution)

Boiling Point: Not applicable

Melting Point: Decomposes above 900°C (1652°F)

Flash Point: Not applicable

Solubility: Soluble in water

Density: ~2.33 g/cm³

Vapor Pressure: Negligible

Particle Size: Fine powder

8. Stability and Reactivity

Reactivity: Reactive with strong acids, leading to the release of heat and harmful gases.

Stability: Stable under normal handling and storage conditions.

Hazardous Reactions: None expected under normal storage and usage.

Conditions to Avoid: High humidity or moisture exposure can degrade the product.

Decomposition Products: Potassium oxides, phosphine, and pyrophosphates upon high temperature decomposition.

9. Toxicological Information

Acute Toxicity:

- **Oral (LD50):** >2000 mg/kg (rat)
- **Dermal (LD50):** Not available
- **Inhalation (LC50):** Not available

Health Effects:

- May cause irritation to skin, eyes, or respiratory tract.
- Prolonged inhalation of dust may irritate the lungs.

Chronic Exposure: Prolonged skin contact may cause dryness or irritation.

Carcinogenicity: Not classified as a carcinogen by OSHA, IARC, or NTP.

10. Disposal Considerations

Waste Treatment Methods:

- Dispose of in accordance with local, state, and national regulations.
- Must not be allowed to enter waterways, drains, or soil.
- Contact a licensed waste disposal service to handle chemical disposal responsibly.

Disclaimer: This material safety data sheet (MSDS) is intended to provide a general description of product hazards and safety measures. Users must adhere to local regulations and environmental requirements while handling or disposing of this product.