

Material Safety Data Sheet (MSDS)

Product Name: Zinc Phosphate Technical Grade

MSDS Generate Date: 20-05-2017

Revision Date: 30-12-2024

Supplier:

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1. Identification of the Substance/Preparation and Company

Product Name: Zinc Phosphate Technical Grade

Chemical Formula: $\text{Zn}_3(\text{PO}_4)_2$

Synonyms: Trizinc diphosphate, Zinc orthophosphate

CAS No.: 7779-90-0

Molecular Weight: 386.11 g/mol

Use of the Product: Used as a corrosion inhibitor in coatings, pigments in paints, ceramics, and surface treatment processes.

2. Hazard Identification

- **Classification (GHS):** Not classified as hazardous under normal conditions.
- **Hazard Statements:**
 - May cause mild skin and eye irritation.
 - Harmful if inhaled in dust form.

- **Precautionary Statements:**
 - Avoid breathing dust.
 - Use protective gloves and goggles.
 - Wash hands thoroughly after handling.

3. Composition / Information on Ingredients

Chemical Name: Zinc Phosphate

CAS No.: 7779-90-0

Purity: ≥ 98%

Hazardous Ingredients: None under normal conditions of use.

4. First Aid Measures

- **Inhalation:** Move person to fresh air. If breathing is difficult, seek medical attention.
 - **Skin Contact:** Wash thoroughly with soap and water. Remove contaminated clothing.
 - **Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes. Seek medical advice if irritation persists.
 - **Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek medical attention if unwell.
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5. Fire Fighting Measures

- **Suitable Extinguishing Media:** Water spray, dry chemical, foam, or CO₂.
 - **Special Hazards:** Non-combustible material. May emit zinc oxide fumes under fire conditions.
 - **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and full protective gear.
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6. Accidental Release Measures

- Avoid generating dust.
- Sweep up and place in suitable containers for disposal.

- Prevent material from entering drains or watercourses.
- Use personal protective equipment (PPE).

7. Handling and Storage

- **Handling:** Avoid dust formation and inhalation. Use in a well-ventilated area.
- **Storage:** Store in a cool, dry, and well-ventilated place. Keep containers tightly closed. Avoid moisture.

8. Exposure Controls / Personal Protection

- **Engineering Controls:** Use local exhaust ventilation if dust is generated.
- **Respiratory Protection:** Use dust masks or respirators (N95 or equivalent).
- **Eye Protection:** Safety goggles.
- **Skin Protection:** Gloves and protective clothing.
- **Hygiene Measures:** Wash hands after handling and before eating or drinking.

9. Physical and Chemical Properties

- **Appearance:** White or off-white powder
- **Odor:** Odorless
- **pH (1% solution):** 6.0 – 8.0
- **Solubility:** Insoluble in water
- **Boiling Point:** Not applicable
- **Melting Point:** > 900°C (decomposes)
- **Density:** Approx. 3.5 g/cm³
- **Flash Point:** Non-flammable

10. Stability and Reactivity

- **Chemical Stability:** Stable under normal conditions.

- **Conditions to Avoid:** Moisture and strong acids.
- **Incompatible Materials:** Strong acids and strong reducing agents.
- **Hazardous Decomposition Products:** May produce zinc oxide fumes and phosphorus oxides on decomposition.

11. Toxicological Information

- **Acute Toxicity:** Low toxicity.
- **Skin Corrosion/Irritation:** May cause mild irritation.
- **Eye Damage/Irritation:** May cause redness and discomfort.
- **Inhalation:** Prolonged inhalation of dust may cause respiratory irritation.
- **Chronic Effects:** Prolonged exposure may affect lungs and mucous membranes.

12. Ecological Information

- **Ecotoxicity:**
Zinc Phosphate can be harmful to aquatic organisms if released in large quantities. Zinc ions can accumulate in aquatic environments, leading to long-term adverse effects.
- **Aquatic Toxicity:**
 - *Zinc compounds*: LC₅₀ (96h, fish): 0.5–3.0 mg/L (as Zn²⁺)
 - *Invertebrates (Daphnia magna)*: EC₅₀ (48h): 0.1–2.0 mg/L (as Zn²⁺)
- **Persistence and Degradability:**
Not biodegradable. Persists as inorganic compound in the environment.
- **Bioaccumulative Potential:**
Zinc ions may bioaccumulate in aquatic organisms but tend to be regulated biologically.
- **Mobility in Soil:**
Low mobility; tends to adsorb to soil and sediment particles.
- **Other Adverse Effects:**
Avoid release into environment. Dispose of contents and containers responsibly.

13. Disposal Considerations

- Dispose of in accordance with local, regional, and national regulations.

- Avoid discharge into drains or natural water bodies.
- Contaminated packaging should be thoroughly cleaned before reuse or disposal.

14. Transport Information

- **UN Number:** Not applicable
- **UN Proper Shipping Name:** Not regulated as hazardous
- **Transport Hazard Class:** Non-hazardous
- **Packing Group:** Not applicable
- **Environmental Hazards:** Avoid release to environment.
- **Transport Precautions:** Keep containers tightly sealed and dry during transport.

15. Regulatory Information

- **OSHA Status:** Non-hazardous
- **TSCA Listing:** Listed
- **EU Classification:** Not classified as dangerous
- **Regulation Compliance:** Complies with REACH and other international standards for technical-grade materials.

16. Other Information

Disclaimer:

The information contained in this MSDS is believed to be accurate and reliable as of the date of revision. The user is responsible for ensuring that conditions of use comply with applicable safety and environmental regulations.

- **MSDS Generate Date:** 20-05-2017
- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.