SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Substance
Substance name: Zinc Phosphate Tribasic Tetrahydrate
Chemical name: Trizinc bis(orthophosphate), tetrahydrate
CAS No: 7543-51-3
Product code: 2987
Formula: Zn$_3$(PO$_4$)$_2$•4H$_2$O
Synonyms: alpha-hopeite / beta-hopeite / Environmentally hazardous substance, solid, n.o.s. / hopeite / parahopeite / phosphoric acid, zinc salt (2:3), tetrahydrate / tribasic zinc phosphate, tetrahydrate / trizinc diphosphate, tetrahydrate / zinc acid phosphate, tetrahydrate / zinc orthophosphate, tetrahydrate / zinc phosphate, tetrahydrate
BIG no: 28473

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: No data available

1.3. Details of the supplier of the safety data sheet

Jost Chemical Co.
8150 Lackland Rd.
Saint Louis, Missouri 63114
T 314-428-4300 - F 314-428-4366
www.jostchemical.com

1.4. Emergency telephone number

Emergency number: CHEMTREC 800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Not classified

2.2. Label elements

GHS-US labeling
No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type: Mono-constituent

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: If you feel unwell, seek medical advice.
First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.
First-aid measures after eye contact: Rinse with water. Take victim to an ophthalmologist if irritation persists.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: No data available.
Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: May cause moderate irritation.
Symptoms/injuries after eye contact: May cause slight irritation.
Symptoms/injuries after ingestion: Gastrointestinal complaints.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Adapt extinguishing media to the environment.
Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non combustible.
Explosion hazard: DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.

5.3. Advice for firefighters

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Mark the danger area. No naked flames. Prevent dust cloud formation.
Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray.
Methods for cleaning up: Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Comply with the legal requirements. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.
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**Hygiene measures:** Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- **Technical measures:** Does not require any specific or particular measures. Comply with applicable regulations.
- **Storage conditions:** Keep container closed when not in use.
- **Heat-ignition:** KEEP SUBSTANCE AWAY FROM: heat sources.
- **Storage area:** Store in a dry area. Meet the legal requirements.
- **Special rules on packaging:** SPECIAL REQUIREMENTS: closing, correctly labelled, meet the legal requirements. Secure fragile packagings in solid containers.
- **Packaging materials:** SUITABLE MATERIAL: wood, polyethylene, glass.

### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

- **Appropriate engineering controls:** Ensure good ventilation of the work station. Extraction to remove dust at its source.
- **Personal protective equipment:**  
  - **Materials for protective clothing:** GIVE GOOD RESISTANCE: PVC, butyl rubber.
  - **Hand protection:** Gloves.
  - **Eye protection:** Safety glasses. In case of dust production: protective goggles.
  - **Skin and body protection:** Protective clothing.
  - **Respiratory protection:** Dust production: dust mask with filter type P1.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- **Physical state:** Solid
- **Appearance:** Crystalline solid. Powder.
- **Color:** Colourless to white
- **Odor:** Odourless
- **Odor threshold:** No data available
- **pH:** 7 (10 %)
- **pH solution:** 10 %
- **Melting point:** > 105 °C
- **Freezing point:** No data available
- **Boiling point:** Not applicable
- **Flash point:** Not applicable
- **Relative evaporation rate (butyl acetate=1):** No data available
- **Flammability (solid, gas):** No data available
- **Explosion limits:** No data available
- **Explosive properties:** No data available
- **Oxidizing properties:** No data available
- **Vapor pressure:** No data available
- **Relative density:** 3.0 - 3.8
- **Relative vapor density at 20 °C:** No data available
- **Specific gravity / density:** 3030 - 3750 kg/m³
- **Molecular mass:** 458.17 g/mol
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility</td>
<td>Insoluble in water. Substance sinks in water. Soluble in acetic acid. Soluble in ammonium hydroxide. Soluble in acids. Soluble in bases. Water: 0.03 g/l.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td></td>
</tr>
<tr>
<td>VOC content</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Other properties</td>
<td>Substance has neutral reaction.</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity
On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, zinc oxide).

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>pH: 7 (10 %)</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>pH: 7 (10 %)</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified (Lack of data)</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified (Lack of data)</td>
</tr>
</tbody>
</table>
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Aspiration hazard: Not classified
(Not applicable)

Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: May cause moderate irritation.
Symptoms/injuries after eye contact: May cause slight irritation.
Symptoms/injuries after ingestion: Gastrointestinal complaints.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Dangerous for the environment.
Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water: Severe water pollutant (surface water). Ground water pollutant. Highly toxic to aquatic organisms.

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods: Dispose in a safe manner in accordance with local/national regulations.
Waste disposal recommendations: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Do not discharge into surface water.

Additional information: Hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport

Additional information
Other information: No supplementary information available.

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Zinc Phosphate Tribasic Tetrahydrate: CAS No 7543-51-3

100

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
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15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Aquatic Acute 1 H400
Aquatic Chronic 1 H410
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
N; R50/53
Full text of R-phrases: see section 16

National regulations
Zinc Phosphate Tribasic Tetrahydrate (7543-51-3)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on New Zealand - Inventory of Chemicals (NZIoC)

15.3. US State regulations

SECTION 16: Other information

Indication of changes Initial SDS.

NFPA health hazard 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard 0 - Materials that will not burn.
NFPA reactivity 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating
Health 0 Minimal Hazard - No significant risk to health
Flammability 0 Minimal Hazard - Materials that will not burn
Physical 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal Protection E Safety glasses, Gloves, Dust respirator

SDS US Custom (-ADR)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.