



TRI SODIUM PHOSPHATE, 12-HYDRATE

1. Product Identification

Synonyms: Sodium Phosphate, Tribasic, 12-Hydrate ; Phosphoric Acid, Trisodium Salt Dodecahydrate

CAS No.: 7601-54-9 (Anhydrous) 10101-89-0 (Dodecahydrate)

Molecular Weight: 380.12

Chemical Formula: $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$

Product Codes: 33190 , A-33190

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Tri Sodium Phosphate	10101-89-0	98 - 100%

3. Hazards Identification

Potential Health Effects

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Behaves as a moderately strong alkali; intense exposure may result in the destruction of mucous membranes. May cause asthmatic bronchitis, chemical pneumonitis, or pulmonary edema.

Ingestion: Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. May cause mild burning of mouth, throat, and stomach. Its alkaline nature may injure the esophagus and digestive tract. Aqueous, highly alkaline solutions may produce caustic burns.

Skin Contact: Causes irritation to skin. Symptoms include redness, itching, and pain. Extent of damage depends on duration of contact. More serious effects may occur if the skin is moist. Aqueous, highly alkaline solutions may produce caustic burns.

Eye Contact: Causes irritation to eyes, may be severe with possible corneal damage. Aqueous, highly alkaline solutions may produce caustic burns.

Chronic Exposure: Repeated exposure may cause symptoms similar to those listed for acute effects. May cause permanent tissue damage to the skin and eyes.

Aggravation of Pre-existing Conditions: No information found.

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting. Give large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.



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5. Fire Fighting Measures

Fire: Not considered to be a fire hazard.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

Trisodium phosphate:

-AIHA Workplace Environmental Exposure Limit: 5 mg/m³ (15-minute STEL)

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with high efficiency particulate filter (NIOSH type N100 filter) may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White crystalline solid.

Odor: Odorless.

Solubility: Appreciable (> 10%)

Specific Gravity: 1.62

pH: Strongly alkaline.

% Volatiles by volume @ 21C (70F): 0

Boiling Point: Decomposes.

Melting Point: 73.3 - 76.7C (163 - 171F)

Vapor Density (Air=1): Not applicable.

Vapor Pressure (mm Hg): Not applicable.

Evaporation Rate (BuAc=1): No information found.

The information contained herein is in good faith but makes no representations as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. We do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.



10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: Sodium and phosphorus oxides may form when heated to decomposition.

Hazardous Polymerization: Will not occur.

Incompatibilities: Reacts violently with water and acids to liberate heat.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Trisodium Phosphate: Investigated as a mutagen. Trisodium Phosphate, Dodecahydrate: 7400 mg/kg oral rat LD50.

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Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Phosphate, Tribasic (10101-89-0)	No	No	None

12. Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

13. Disposal Considerations

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No

Reactivity: No (Pure / Solid)

16. Other Information

Product Use:

Laboratory Reagent.