

Safety Data Sheet

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Tetrasodium pyrophosphate

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Tetra sodium pyrophosphate

Chemical Formula: Na₄P₂O₇

CAS Number: 7722-88-5

Other Designations: TSPP

Derivation: Produced by molecular dehydration of dibasic sodium phosphate at 932°F (500°C).

General Use: Used widely as a water softener, in soaps and detergents, as a dispersing and emulsifying agent, and as a metal cleaner; used in boiler-water treatment; in drilling muds, in wool scouring; as a nutritional supplement; in cheese emulsification; to remove rust stains; as an ingredient of one-fluid ink eradicators, and in the electrodeposition of metals.

Emergency Telephone: (ChemTel) Contract MIS0000335; 800 255-3924; INTL 813 248-0585

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

This material exhibits low toxicity. Systemic effects are not expected from exposure to it; however, it is a slightly alkaline material, so its dust is irritating to the eyes, skin, and, if inhaled, to the respiratory system.

HMIS	
H	2
F	0
R	0
PPE [†]	
†Sec. 8	

Potential Health Effects

Primary Entry Routes: Inhalation, skin contact.

Target Organs: Eyes, skin, respiratory system.

HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P321 Specific treatment (see supplemental first aid instructions on this label).

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P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

Acute Effects

Inhalation: May cause upper respiratory tract irritation.

Eye: May cause irritation (redness) and pain.

Skin: May cause skin irritation (redness).

Ingestion: May cause nausea, vomiting and diarrhea.

Carcinogenicity: IARC, NTP, ACGIH, and OSHA do not list tetrasodium pyrophosphate as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: None reported.

Chronic Effects: None reported.

Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	EINECS/ELINCS	% wt or % vol
Tetrasodium pyrophosphate	7722-88-5	2317671	100

Trace impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Tetrasodium pyrophosphate	5 mg/m ³	none estab.	5 mg/m ³	none estab.	none estab.	none estab.	none estab.

Section 4 - First Aid Measures

Inhalation: Remove from the exposure to fresh air. If breathing has stopped, administer artificial respiration and oxygen if available. Contact a physician as necessary.

Eye Contact: Flush immediately with clean water for at least 15 minutes.

Skin Contact: Remove any contaminated clothing or shoes. Wash affected areas thoroughly with soap and water for at least 15 minutes.

Ingestion: Wash out mouth with water and give water to dilute provided person is conscious. Never make an unconscious person vomit or drink fluids.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians:

Section 5 - Fire-Fighting Measures

Flash Point: N/A



Burning Rate:

Autoignition Temperature:

LEL: N/A

UEL: N/A

Flammability Classification: non-flammable

Extinguishing Media: Tetrasodium pyrophosphate does not burn. Use extinguishing agents that will put out the surrounding fire.

Unusual Fire or Explosion Hazards: None reported.

Hazardous Combustion Products: During fires, tetrasodium pyrophosphate may give off oxides of phosphorus and/or sodium fumes.

Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: Avoid excessive generation of dust. If dust is generated, wear appropriate respiratory protection (see sect. 8). Ventilate the affected area.

Small Spills: Carefully scoop or vacuum waste, using an appropriate filter, into a container suitable for reclamation or disposal.

Large Spills

Containment: For large spills, dike far ahead of spill for later disposal. Do not release into sewers or waterways.

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Cleanup:

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Protect containers from physical damage, use with adequate ventilation, do not create dusty working conditions and practice good housekeeping to minimize the accumulation of tetrasodium pyrophosphate dust.

Storage Requirements: Store tetrasodium pyrophosphate in closed containers in a cool, dry, well-ventilated area away from acids and strong oxidizing agents.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white powder or crystals

Odor:

Vapor Pressure: N/A

Vapor Density (Air=1):

Formula Weight: 265.95

Density/Specific Gravity (H₂O=1, at 4 °C): 2.543 @ 20°C

PH (1% by weight in water): 10.2

Water Solubility: soluble

Other Solubilities:

Boiling Point:

Freezing/Melting Point: >1616°F (880°C)

Viscosity:

Refractive Index:

Surface Tension:

% Volatile:

Evaporation Rate (BuAc=1):

Section 10 - Stability and Reactivity

Stability: Tetrasodium pyrophosphate is stable at room temperature in closed container under normal storage and handling conditions.

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities: Tetrasodium pyrophosphate may react with acids and strong oxidizing agents.

Conditions to Avoid: Avoid generating dust and/or fume and contact with incompatible chemicals.

Hazardous Decomposition Products: Thermal oxidative decomposition of product name can produce oxides of phosphorus and/or sodium fumes.

Section 11- Toxicological Information

Toxicity Data:*

Acute Oral Effects:

Rat, oral, LD₅₀: 4000 mg/kg

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Inorganic phosphorus compounds may cause irritation and hemorrhages in the stomach as well as liver and kidney damage. Bone structure may be attacked, especially the jaw and teeth.

* See NIOSH, RTECS (UX7350000), for additional toxicity data.

Section 12 - Ecological Information

Ecotoxicity:

Environmental Fate:

Environmental Degradation:

Soil Absorption/Mobility:

Section 13 - Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements:

Container Cleaning and Disposal:

Section 14 - Transport Information

Not regulated for transportation

US DOT(49 CFR 172.101): PSN: Hazard Class: UN Number: Packing Group:	IATA PSN: Hazard Class: UN Number: Packing Group:
TDG PSN: Hazard Class: UN Number: Packing Group:	IMDG/IMO PSN: Hazard Class: UN Number: Packing Group:

Section 15 - Regulatory Information

EPA Regulations:

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards: Acute Health Hazard

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other

reproductive harm. Section 16 - Other Information

Disclaimer: All information, recommendations and suggestions appearing herein are based upon sources believed to be reliable. However, it is the users responsibility to determine the safety, toxicity and suitability for its own use of this product. WEGO CHEMICAL & MINERAL CORP. DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE USE BY OTHERS OF THIS PRODUCT.