



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

# MATERIAL SAFETY DATA SHEETS

## SECTION I

### PRODUCT AND COMPANY IDENTIFICATION

**Product: Sodium pyrophosphate, anhydrous**  
**This MSDS is valid for all grades and catalog #'s**

Synonyms: Tetrasodium pyrophosphate; Anhydrous tetrasodium pyrophosphate; Phosphotex; Pyrophosphate; Tetrasodium diphosphate; Tetrasodium pyrophosphate, anhydrous; Pyrophosphoric acid, tetrasodium salt  
Formula: Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>

Manufacturer: PHARMCO-AAPER  
58 Vale Road  
Brookfield, Connecticut 06804, USA  
Phone (203) 740-3471  
Fax (203) 740-3481

1101 Isaac Shelby Drive  
Shelbyville, KY 40065  
Phone (502) 633-0650  
Fax (502) 633-0685

Emergency Contact:  
CHEMTREC 1-800-424-9300

## SECTION II

### COMPOSITION /INFORMATION ON INGREDIENTS

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
100	Sodium pyrophosphate	7722-88-5	TWA: 5 (mg/m3) from OSHA (PEL) [United States] TWA: 5 (mg/m3) from ACGIH (TLV) [United States] TWA: 5 (mg/m3) from NIOSH	ORAL (LD50): Acute: 4000 mg/kg [Rat]. 2980 mg/kg [Mouse]. DERMAL (LD50): Acute: >7940 mg/kg [Rabbit]

## SECTION III

### HAZARDS IDENTIFICATION

**Potential Acute Health Effects:** Slightly hazardous in case of skin contact (irritant, ermeator), of eye contact (irritant), of ingestion, in ase of inhalation (lung irritant).

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to kidneys, liver. Repeated or prolonged exposure to the substance can produce target organs damage.

## SECTION IV

### FIRST AID

Obtain medical attention for all cases of over-exposure.

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse.

Thoroughly clean shoes before reuse. Get medical attention.

**Hazardous Skin Contact:** Not available.

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

**Hazardous Inhalation:** Not available.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Hazardous Ingestion:** Not available.

## SECTION V

### FIRE FIGHTING MEASURES

**Fire:**

Flammability of the Product: Non-flammable.

Auto-Ignition temperature: Not applicable.

Flash point: Not applicable.

Flammable limits: Not applicable.

Products of Combustion: Not available.

**Fire Hazards:** Not applicable.

**Explosion Hazards:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of

explosion of the product in presence of static discharge: Not available.

**Fire Extinguishing Media:** Not applicable.

**Special Information:** When heated to decomposition it emits toxic fumes of phosphorus oxides

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## SECTION VI

### SPILL/ACCIDENTAL RELEASE MEASURES

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Use a shovel to put the material into a convenient waste disposal container. Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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## SECTION VII

### HANDLING AND STORAGE

**Precautions:** Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

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## SECTION VIII

### EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** TWA: 5 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] TWA: 5 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] TWA: 5 (mg/m<sup>3</sup>) from NIOSH Consult local authorities for acceptable exposure limits.

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## SECTION IX

### PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Appearance:** Solid. (Solid crystalline powder. Granular solid.)

**Molecular Weight:** 265.9 g/mole

**Odor:** Odorless.

**Taste:** Alkaline. (Slight.)

**Color:** White.

**pH (1% Solution in Water):** 10.2 [Basic.]

**Boiling Point:** Not available.

**Melting Point:** 988°C (1810.4°F) It begins to melt incongruently at 622 C., and is completely melted at 988 deg. C

**Critical Temperature:** Not available.

**Specific Gravity:** 2.534 (Water = 1)

**Vapor Pressure (mm Hg):** Not applicable.

**Vapor Density (Air=1):** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** Not available.

**Ionicity (in water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Soluble in cold water, hot water. Solubility in Water: 2.6 g/100 ml @ 0 deg. C; 6.7 g/ml @ 25 deg. C.; 42.2 g/100 ml @ 100 deg. C

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## SECTION X

### STABILITY/REACTIVITY INFORMATION

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, dust generation.

**Incompatibilities:** Reactive with oxidizing agents, acids.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Information:** Not available.

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## SECTION XI

### TOXICOLOGICAL INFORMATION

**Routes of Entry:** Absorbed through skin. Skin contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 2980 mg/kg [Mouse]. Acute dermal toxicity (LD50): >7940 mg/kg [Rabbit].

**Chronic Effects on Humans:** May cause damage to the following organs: kidneys, liver.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, in case of inhalation (lung irritant).

**Special Information on Toxicity to Animals:** Other Lethal Dose/Conc: LD[Rabbit] - Route: Skin; Dose: >300 mg/kg

**Special Information on Chronic Effects/Toxicity on Humans:** Acute Potential Health Effects: Skin: Causes mild to moderate skin irritation. It may be absorbed through the skin. Eyes: Causes mild to moderate eye irritation with redness, tearing. Inhalation: Causes respiratory tract irritation. Symptoms may include runny nose, coughing, chest tightness, shortness of breath. Ingestion: Causes gastrointestinal tract irritation. Symptoms may include nausea, vomiting, diarrhea. Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, may occur. Symptoms may include vomiting, diarrhea, lethargy, blood chemistry effects (metabolic acidosis, hypocalcemia), heart

disturbances, and central nervous system effects. The toxicity of phosphates is due to their ability to sequester calcium. Chronic Potential Health Effects: Chronic ingestion or inhalation may induce systemic phosphorous poisoning. Liver damage, kidney damage, jaw/tooth abnormalities, blood disorders and cardiovascular effects may result. Prolonged or repeated skin contact may cause drying or chapping of skin. Medical Conditions Aggravated by Exposure: Persons with pre-existing skin disorders or eye problems, jaw/tooth abnormalities, or impaired liver, kidney or respiratory function may be more susceptible to the effects of this substance.

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## SECTION XII ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Information on Products of Biodegradation:** Not available.

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## SECTION XIII DISPOSAL CONSIDERATIONS

**Waste Disposal:** Recycle to process, if possible. Consult your local or regional authorities.

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## SECTION XIV TRANSPORTATION INFORMATION

**DOT Classification:** DOT Not a DOT controlled material (United States).

**UN:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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## SECTION XV REGULATORY INFORMATION

Federal and State Regulations: Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

Pennsylvania Right-To-Know, Hazardous substance List, Hazardous Substances and Special hazardous Substances on the list must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Massachusetts Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this

product at a level which could require reporting under the statute are:

**NONE**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

### **Other Classifications:**

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): R36/37/38- Irritating to eyes, respiratory system and skin.

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

### **References:**

-The Sigma-Aldrich Library of Chemical Safety Data, Edition II.

-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.

-Manufacturer's Material Safety Data Sheet.

-Registry of Toxic Effects of Chemical Substances

-HazardText

-Hazardous Substance Data Bank

-New Jersey Hazardous Substances Fact Sheets

-Reprotxt

-Ariel Global View

**Other Special Considerations:** Uses: In cleaning compounds; oil-well drilling; water treatment; cheese emulsification; as a general sequestering agent; to remove rust stains; as an ingredient of one-fluid ink eradicators; in electrodeposition of metals; foods; curing meat products

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The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.