

Material Safety Data Sheet

TETRA SODIUM PYROPHOSPHATE TECH GRADE

1. PRODUCT DESCRIPTION

Chemical Name or Synonym: TSPP; ANHYDROUS TETRASODIUM PYROPHOSPHATE

Molecular Formula: Na₄P₂O₇

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component CAS Reg Number OSHA

Hazard Percentage

TETRASODIUM PYROPHOSPHATE, ANHYDROUS 7722-88-5 Y 100

3. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW: Physical Appearance and Odor: white crystalline solid, odorless.

Warning Statements: CAUTION! CAUSES EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION.

B. POTENTIAL HEALTH EFFECTS:

Acute Eye: Severe irritant. May cause redness, burns.

Acute Skin: Low acute dermal toxicity. May cause irritation.

Acute Inhalation: Low acute inhalation toxicity. Dusts may cause upper respiratory tract irritation.

Acute Ingestion: Harmful if ingested. May cause burns to mouth and esophagus, nausea, vomiting, diarrhea.

Chronic Effects: This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

4. FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:

Eye Exposure: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 15 minutes. If it is necessary to transport the patient to a physician and the eye needs to be bandaged, use a dry sterile cloth pad and cover both eyes.

Skin Exposure: In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned.

Inhalation: Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Ingestion: If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Material may enter lungs and cause severe damage. Do not give anything by mouth to an unconscious victim. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:

Inhalation of product may aggravate existing chronic respiratory problems such as asthma,

emphysema or bronchitis. Skin contact may aggravate existing skin disease.

NOTES TO PHYSICIAN:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the feces with the diarrhea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity. Treatment should take into consideration both anionic and cation portion of the molecule. The following treatments should be considered for the specific group(s) of phosphate salts found in this product:

--All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcemia, so calcium levels should be monitored.

--Ammonium salts have a hypothetical risk of ammonia toxicity. In addition to calcium levels, ammonia and phosphate levels should be monitored.

--Potassium salts have a hypothetical risk of hyperkalemia which can cause cardiac arrhythmia. In addition to calcium levels, potassium and phosphate levels should be monitored. Also consider continuous EKG monitoring to detect hyperkalemia.

--Sodium salts have a hypothetical risk of hypernatremia. In addition to calcium levels, sodium and phosphate levels should be monitored.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

Flash Point: Not Applicable

Extinguishing Media: Not combustible. Use extinguishing method suitable for surrounding fire.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Not combustible.

Hazardous Decomposition Materials (Under Fire Conditions): none known

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety: Ventilate closed spaces before entering. Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Containment of Spill: Follow procedure described below under Cleanup and Disposal of Spill.

Cleanup and Disposal of Spill: Sweep up and place in an appropriate closed container (see Section 7: Handling and Storage). Avoid creation of dusty conditions. Clean up residual material by washing area with water and detergent. Collect washings for disposal. Decontaminate tools and equipment following cleanup.

Environmental and Regulatory Reporting: Do not flush to drain. If spilled on the ground, the affected area should be scraped clean and placed in a appropriate container for disposal. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures: Not Available

Handling: Keep containers closed when not being used. Do not get on skin or in eyes. Do not breathe dusts. Do not ingest.

Storage: Store in tightly closed containers. Store in an area that is sanitary, dry, well-ventilated, cool, isolated from all toxic and harmful substances, away from ignition sources.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines: Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

TETRASODIUM PYROPHOSPHATE, ANHYDROUS

Notes TWA STEL

ACGIH 5 mg/cu m

OSHA 5 mg/cu m

PARTICULATES NOT OTHERWISE REGULATED RESPIRABLE FRACTION

Notes TWA STEL

OSHA 5 mg/cu m

PARTICULATES NOT OTHERWISE REGULATED TOTAL DUST

Notes TWA STEL

OSHA 15 mg/cu m

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): dust/mist filtering respirator.

Eye/Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Skin Protection: Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e., shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls: Personal hygiene is an important work practice exposure control measure

and the following general measures should be taken when working with or handling this material:

(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

(3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

Physical Appearance: white crystalline solid.

Odor: odorless.

pH: 10.2 at 1 wt/wt%.

Specific Gravity: 2.534 at 25 C (77 F).

Water Solubility: soluble 5 wt/wt% at 25 C (77 F).

Melting Point Range: 985 C (1805 F)

Boiling Point Range: Not Available

Vapor Pressure: Not Available

Vapor Density: Not Available

Molecular Weight: 265.91

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions described in Section 7.

Conditions To Be Avoided: dusting conditions moisture

Materials/Chemicals To Be Avoided: none known

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: thermal

none known

Hazardous Polymerization Will Not Occur.

Avoid The Following To Inhibit Hazardous Polymerization: not applicable

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation: Toxicological Information and Interpretation: eye - eye irritation, rabbit. Moderately to severely irritating.

Acute Skin Irritation: Toxicological Information and Interpretation: skin - skin irritation, rabbit. Non-irritating.

Acute Dermal Toxicity: Toxicological Information and Interpretation: LD50 - lethal dose 50% of test species, > 2000 mg/kg, rabbit.

Acute Respiratory Irritation: No test data found for product.

Acute Inhalation Toxicity: No test data found for product.

Acute Oral Toxicity: Toxicological Information and Interpretation: LD50 - lethal dose 50% of test species, 4000 mg/kg, rat.

LD50 - lethal dose 50% of test species, 2980 mg/kg, mouse.

LD50 - lethal dose 50% of test species, 2150 mg/kg, rat (male).

LD50 - lethal dose 50% of test species, 1825 mg/kg, rat (female).

Chronic Toxicity: This product does not contain any substances that are considered by OSHA,

NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

No additional test data found for product.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data found for product.

Chemical Fate Information: No specific biodegradation test data located. While the alkalinity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Container Handling and Disposal: Rinse containers before disposal.

EPA Hazardous Waste - NO

14. TRANSPORTATION INFORMATION

Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification. The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US Department of Transportation

Shipping Name: NOT REGULATED

15. REGULATORY INFORMATION

Inventory Status

Inventory Status

UNITED STATES (TSCA) Y

CANADA (DSL) Y

EUROPE (EINECS/ELINCS) Y

AUSTRALIA (AICS) Y

JAPAN (MITI) Y

SOUTH KOREA (KECL) Y

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list.

All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

FEDERAL REGULATIONS

Inventory Issues: All functional components of this product are listed on the TSCA Inventory.

SARA Title III Hazard Classes:

Fire Hazard - NO

Reactive Hazard - NO

Release of Pressure - NO

Acute Health Hazard - YES

Chronic Health Hazard - NO

OTHER FEDERAL REGULATIONS:

FDA Status:

This product meets the compositional requirements of:

21 CFR 182.6789 TETRA SODIUM PYROPHOSPHATE

STATE REGULATIONS:

This product does not contain any components that are regulated under California Proposition 65.

16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings--NFPA(R):

3 Health Hazard Rating--Serious

0 Flammability Rating--Minimal

0 Instability Rating--Minimal

National Paint & Coating Hazardous Materials Identification System--HMIS(R):

3 Health Hazard Rating--Serious

0 Flammability Rating--Minimal

0 Reactivity Rating--Minimal

Reason for Revisions:

New product MSDS.

Key Legend Information:

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

TLV - Threshold Limit Value

PEL - Permissible Exposure Limit

TWA - Time Weighted Average

STEL - Short Term Exposure Limit

NTP - National Toxicology Program

IARC - International Agency for Research on Cancer

ND - Not determined

RPI - INNOPHOS Established Exposure Limits

Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall AS Kimya be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if AS Kimya has been advised of the possibility of such damages.