



MATERIAL SAFETY DATA SHEET

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SODIUM TRIPOLYPHOSPHATE

SECTION 1.0 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: SODIUM TRIPOLYPHOSPHATE MSDS Number: P007758294
Chemical Name: Triphosphoric acid, Pentasodium salt MSDS Origination Date: 10/01/2000
Synonyms: STP, STPP MSDS Revision Date: 09/22/2005

IN THE EVENT OF A CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT

Call **CHEMTREC: 1-800-424-9300**. Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska, or U.S. Virgin Islands. For calls originating elsewhere dial 703-527-3887 (collect calls accepted).

For additional non-emergency information call: 706-798-4346

SECTION 2.0 COMPOSITION / INGREDIENTS INFORMATION

<u>Component</u>	<u>CAS No.</u>	<u>% By Weight</u>	<u>OSHA PEL*</u>	<u>ACGIH TLV*</u>
Sodium tripolyphosphate, anhydrous	7758-28-4	85-97	15 mg/m ³	10 mg/ m ³
Tetrasodium pyrophosphate (TSPP)	7722-88-5	2-9	5 mg/m ³	5 mg/ m ³
Sodium trimetaphosphate	7785-84-4	1-4	15 mg/m ³	10 mg/ m ³

*Based on 8-hour time weighted averages

SECTION 3.0 HAZARD IDENTIFICATION

WARNING STATEMENTS:

May cause respiratory tract irritation if inhaled.

EMERGENCY OVERVIEW:

APPEARANCE AND ODOR: White powder or granular with no odor.

POTENTIAL HEALTH EFFECTS:

Likely Routes of Entry: Inhalation, Skin & Eye contact

EYE CONTACT: No more than slightly irritating based on toxicity studies. The dry powder may cause foreign body irritation in some individuals.

SKIN CONTACT: No more than slightly toxic or slightly irritating based on toxicity studies. Prolonged contact with the dry powder may cause drying or chapping of the skin.

INHALATION: Inhalation of the dust may cause coughing, chest tightness, runny nose, chest pain and burning throat.

INGESTION: Not toxic if swallowed, based on toxicity studies.
Small amounts (less than a mouthful) swallowed: No significant adverse health effects are expected.
Large amount (greater than mouthful) swallowed: May cause gastrointestinal tract irritation, nausea, vomiting, and diarrhea.

TARGET ORGANS: Respiratory tract, Skin

Refer to Section 11.0 for toxicological information.

SECTION 4.0 FIRST AID MEASURES

IF IN EYES OR ON SKIN: Remove loose powder from around eyes or from skin and then rinse area with water. Heavily contaminated clothing should be laundered before reuse.

IF INHALED: If inhaled, removed to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if problems continue or develop.

IF SWALLOWED: If swallow ed, contact physician or Poison Control Center at 1-800-222-1222 (inside the United States).

SECTION 5.0 FIRE FIGHTING MEASURES

FLASHPOINT: Not combustible

EXTINGUISHING MEDIA: Not applicable

HAZARDOUS PRODUCTS OF COMPOSITION: Exposure to high temperatures may cause decomposition into toxic gases

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known

SECTION 6.0 INCIDENTAL RELEASE MEASURES

IN CASE OF SPILL: Sweep, scoop, or vacuum up powdered material into containers. If possible, complete cleanup on a dry basis. Flush residual spill area with water.

Do not allow material to enter sewers and public waters.

Refer to Section 13 for disposal considerations. Refer to Section 14 & 15 for regulatory information.

SECTION 7.0 PHYSICAL & CHEMICAL PROPERTIES

Chemical Formula: $\text{Na}_5\text{P}_3\text{O}_{10}$

Appearance: White powder or granular

Odor: None

Melting Point: Completely @ 622° Celsius; Incongruently @ 552° Celsius

pH (as a 1% soln @25°C) 9.7 – 10.1 s.u.

Solubility in Water: 16.0@0°C; 14.8@25°C; 16.7@60°C; 22.2@80°C; 32.2@100°C (gr./100 ml. water)

Bulk Density (lb./cu. ft.): Powdered: 50-65; Granular: 43-52 (medium dense)

NOTE: The physical data reported above are typical values based on material testing, but may vary from product sample to sample. Typical values should not be considered as a guaranteed analysis of any specific lot or as specifications for this product.

SECTION 8.0 STABILITY & REACTIVITY INFORMATION

STABILITY: Product is stable under normal conditions of storage and handling.

MATERIALS/CONDITIONS TO AVOID: Fire, moisture, strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Phosphorous oxides, irritating & toxic fumes and gases, toxic fumes of sodium oxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 9.0 EXPOSURE CONTROL / PERSONAL PROTECTION

EYE PROTECTION: Recommend the use of approved safety glasses. Goggles in dusty environments. This product does not cause significant eye irritation or toxicity requiring special protection. Use good industrial hygiene practices to avoid eye contact.

SKIN PROTECTION: Recommend using chemical resistant gloves when handling raw product. Follow good industrial hygiene practices to minimize skin exposure. Wash hands and contaminated skin thoroughly after handling.

RESPIRATORY PROTECTION: Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment when airborne concentration exceeds required limits. Consult the respirator manufacturer to determine the appropriate type of equipment needed for a given application. Observe all respirator use limitations specified by NIOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29 CFR 1910.134.

VENTILATION: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits. The use of local mechanical exhaust ventilation is preferred at sources of air contamination such as open process equipment.

AIRBORNE EXPOSURE LIMITS: OSHA and ACGIH have not established specific exposure limits for this material. Below are the OSHA and ACGIH recommended limits set for Particulates, Not Otherwise Specified. Values are listed as time-weighted averages. Also listed is the NIOAH PEL & ACGIH TLV for Tetrasodium pyrophosphate (CAS# 7722-88-5) which is a component of this material.

<u>SUBSTANCE</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Particulates, Not Otherwise Specified (PNOS)	15 mg/m ³ (Total dust)	10 mg/ m ³ (Inhalable dust)
	5 mg/m ³ (Respirable dust)	3 mg/m ³ (Respirable dust)
<u>SUBSTANCE</u>	<u>NIOSH PEL</u>	<u>ACGIH TLV</u>
Tetrasodium pyrophosphate (CAS# 7722-88-5)	5 mg/m ³	5 mg/ m ³

SECTION 10.0 HANDLING AND STORAGE INFORMATION

HANDLING: Avoid breathing dust. Keep container closed. Use with adequate ventilation. Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing.

Emptied container retains product residue. Observe all labeled safeguards until containers is cleaned, reconditioned, or destroyed.

STORAGE: Store product in a cool, dry place to maintain product performance.

SECTION 11.0 TOXICOLOGICAL INFORMATION

The dry powder may cause foreign body irritation in some individuals. Prolonged contact with the dry powder may cause drying or chapping of the skin. Excessive inhalation of dust may be annoying and can mechanically impede respiration. The high alkalinity of Tetrasodium pyrophosphate (TSPP) may cause upper respiratory tract irritation.

Data from single-dose (acute) animal studies with this material are given below:

Oral (Rat, LD ₅₀):	5,400 mg/kg	Practically non-toxic
Dermal (Rabbit, LD ₅₀):	> 7,940 mg/kg	Practically non-toxic
Eye Irritation (Rabbit):	3.3/110.0	Slightly irritating
Skin Irritation (Rabbit):	0.0/8.0 (24-hr. exp.)	Practically non-irritating

Rats fed Sodium tripolyphosphate in their diet for two years exhibited decreased growth, increased kidney/body weight ratios, and kidney changes. No birth defects were noted in rabbits given Sodium tripolyphosphate orally during pregnancy. No effects were seen on the ability of male and female rats to reproduce when fed Sodium tripolyphosphate for 3 successive generations. Sodium tripolyphosphate has generally produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells. Genetic changes were reported in a standard test using yeast cells.

Acute studies indicate that this material (TSPP) is slightly toxic orally (rat) and practically nontoxic after skin application (rabbit). It is slightly irritating to rabbit eyes and nonirritating to rabbit skin. Rats fed TSPP in their diet for four months showed a reduced weight gain, urinary changes, increased organ-to-body weight ratios, and slight kidney damage. No birth defects were reported in rabbits, hamsters, mice or rats given this material orally during pregnancy. TSPP produced no genetic changes in standard tests using bacterial and yeast cells.

SECTION 12.0 ECOLOGICAL INFORMATION

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity. A legend summarizing the classification scheme appears below.

Invertebrate: 48-hr EC₅₀ Daphnia magna: > 1000 mg/L; Practically Nontoxic

Available toxicity data for similar materials suggest that this material would be practically nontoxic to fish (LC₅₀ or EC₅₀ > 100 mg/L). No definitive algal data was available for this material.

Legend for Aquatic Organism Toxicity (Journal of the European Communities, Annex VII A, Section 5.2.1)

Prayon Inc. has not conducted any biodegradation studies with this material. When dissolved/hydrolyzed in water it yields completely mineralized materials.

AQUATIC ORGANISM TOXICITY
(Journal of the European Communities, Annex VII A, Section 5.2.1)

Values	Classifications
LC ₅₀ or EC ₅₀ < or = 1.0 mg/L	Very Toxic
LC ₅₀ or EC ₅₀ 1 – 10 mg/L	Toxic
LC ₅₀ or EC ₅₀ 10 – 100 mg/L	Harmful
LC ₅₀ or EC ₅₀ >100 mg/L	Practically Non-toxic

SECTION 13.0 DISPOSAL CONSIDERATIONS

This material when discarded is not a hazardous waste as defined by 40 CFR 261, the Resource Conservation and Recovery Act (RCRA). Dry materials may be landfilled or recycled in accordance with local, state, and federal regulations. Consult with appropriate regulatory affairs officials for information on disposal.

SECTION 14.0 TRANSPORTATION INFORMATION

The information in this section is provided as reference only. Refer to appropriate regulations to appropriately classify your shipment for transportation.

U.S. DOT (Non-bulk):	Not regulated in non-bulk quantities
U.S. DOT (Bulk):	Regulated under DOT when shipping bulk quantities above CERCLA RQ. Environmentally hazardous substances, solid, n.o.s. (Sodium tripolyphosphate), 9, UN3077, PG III
ICAO/IATA:	Not determined
IMDG:	Not determined
Canadian TDG:	Not determined

SECTION 15.0 REGULATORY INFORMATION

CAS Registry Number:	7758-29-4	SARA Title III:	Acute Health Hazard
TSCA Inventory:	Listed	SARA 302 – ESH:	Not applicable
Canadian DSL/NDSL:	DSL Listed	SARA 313 – Toxic:	Not applicable
EINECS Number:	231-838-7	California Prop 65:	Not applicable
CERCLA Reportable Qt.	5,000 lbs.	RTECS/NIOSH Number:	YK 4570000 / primary irritant

Hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200), Appendix A

<u>Material Name</u>	<u>Health Hazard Definitions under Appendix A</u>					
Sodium tripolyphosphate	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Irritant	<input type="checkbox"/> Corrosive	<input type="checkbox"/> Sensitizer	<input type="checkbox"/> Toxic	<input type="checkbox"/> Carcinogen
Tetrasodium pyrophosphate (TSPP) (Tetrasodium pyrophosphate is a component of Sodium tripolyphosphate.)	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Irritant	<input type="checkbox"/> Corrosive	<input type="checkbox"/> Sensitizer	<input type="checkbox"/> Toxic	<input type="checkbox"/> Carcinogen

ANSI/NSF Standard 60: Certified for use in potable water systems.

The information in this section is provided as reference only. Refer to appropriate regulations/sources to appropriately classify material for regulatory purposes.

SECTION 16.0 OTHER INFORMATION

	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>	<u>Additional Information</u>
NFPA	1	0	0	None
HMS	1	0	0	E
WHIMS	Not determined			

SECTION 17.0 LATEST REVISION CHANGES

09/22/2005	Entire MSDS format was revised and content in Section 5, 8,14, 15 & 16 expanded.
06/15/2005	The information contained in this MSDS was reviewed and no revisions were made.
09/28/2001	Section 14 –DOT Classification change. Section 15 –CERCLA Reportable Quantity change.

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END OF MSDS