



## Material Safety Data Sheet



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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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Product Name: SODIUM TRIPOLYPHOSPHATE ANHYDROUS  
Reference Number: AST10056 Date: July 10, 2000  
Chemical Family: Phosphate Salts  
Chemical Name: Triphosphoric Acid, Pentasodium Salt  
Synonyms: STP; STPP; Polysorb®

Company Information:

ASTARIS LLC  
622 Emerson Road - Suite 500  
St. Louis, Missouri 63141

Emergency telephone: In USA call CHEMTREC: 1-800-424-9300  
In Canada call CANUTEC: 1-613-996-6666

General Information: 1-800-244-6169

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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<u>Component</u>	<u>CAS No.</u>
Sodium Tripolyphosphate Anhydrous	7758-29-4
Tetrasodium Pyrophosphate (TSPP)	7722-88-5
Sodium Trimetaphosphate	7785-84-4

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### 3. HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW

Appearance and Odor: White powder or granules with no odor

#### WARNING STATEMENTS

CAUTION!

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MAY CAUSE RESPIRATORY TRACT IRRITATION

### POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact and inhalation

**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:** This product may cause coughing, chest tightness, runny nose, chest pain, and burning throat.

**INGESTION:** No more than slightly toxic if swallowed based on toxicity tests. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Swallowing large quantities may cause gastrointestinal tract irritation, nausea, vomiting, and diarrhea.

Refer to Section 11 for toxicological information.

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## **4. FIRST AID MEASURES**

**IF IN EYES OR ON SKIN,** immediate first aid is not likely to be required. However, this material can be removed with water. Remove material from eyes, skin and clothing. Wash heavily contaminated clothing before reuse.

**IF INHALED,** remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**IF SWALLOWED,** immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice.

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## **5. FIRE FIGHTING MEASURES**

**FLASH POINT:** Not combustible

**HAZARDOUS PRODUCTS OF COMBUSTION:** Not applicable

**EXTINGUISHING MEDIA:** Not applicable

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None known

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## **6. ACCIDENTAL RELEASE MEASURES**

In case of spill, sweep, scoop or vacuum and remove. If possible, complete cleanup on a dry basis. Flush residual spill area with water.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

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## 7. HANDLING AND STORAGE

### HANDLING

Avoid breathing dust.  
Keep container closed.  
Use only with adequate ventilation.

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

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**EYE PROTECTION:** This product does not cause significant eye irritation or eye toxicity requiring special protection. Use good industrial practice to avoid eye contact.

**SKIN PROTECTION:** Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

**RESPIRATORY PROTECTION:** Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure limits are exceeded (see below). Consult the respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29 C.F.R. 1910.134.

**VENTILATION:** Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). 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. However, OSHA and ACGIH have established limits for particulates not otherwise classified (PNOC) which are the least stringent exposure limits applicable to dusts.

<u>OSHA PEL</u>	<u>ACGIH TLV</u>
15 mg/m <sup>3</sup> (total dust) 8-hr TWA	10 mg/m <sup>3</sup> (inhalable) 8-hr TWA
5 mg/m <sup>3</sup> (respirable) 8-hr TWA	3 mg/m <sup>3</sup> (respirable) 8-hr TWA

Sodium tripolyphosphate anhydrous contains tetrasodium pyrophosphate which has the following airborne exposure guidelines:

<u>OSHA PEL</u>	<u>ACGIH TLV</u>
5 mg/m <sup>3</sup> 8-hr. TWA	5 mg/m <sup>3</sup> 8-hr. TWA

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Formula:

Na<sub>5</sub>P<sub>3</sub>O<sub>10</sub>

Appearance:

White powder or granules

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Odor:	None
pH:	9.7-10.1 (as a 1% solution @ 25 C)
Melting Point @ 760 mm Hg:	Begins to melt incongruently @ 552 degrees C; completely melted @ 622 degrees C
Bulk Density (lb./cu. ft):	Powder - 50-65; Granular - 43-52 (medium dense)
Solubility in Water (g/100 g H <sub>2</sub> O):	6.0 @ 0 degrees C, 14.8 @ 25 degrees C, 16.7 @ 60 degrees C, 22.2 @ 80 degrees C, 32.2 @ 100 degrees C

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

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## 10. STABILITY AND REACTIVITY

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

MATERIALS TO AVOID: None known

HAZARDOUS DECOMPOSITION PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur

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## 11. TOXICOLOGICAL INFORMATION

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

Oral - rat LD50 - 5,400 mg/kg; practically non-toxic  
Dermal - rabbit LD50 - > 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.); not irritating  
Inhalation - LC50 > 0.39 mg/L (rat, 4 hr) (maximum attainable concentration)

Rats fed Sodium Tripolyphosphate Anhydrous 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 Anhydrous orally during pregnancy. No effects were seen on the ability of male and female rats to reproduce when fed Sodium Tripolyphosphate Anhydrous for 3 successive generations. Sodium Tripolyphosphate Anhydrous 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.

The following component has been defined as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Tetrasodium pyrophosphate (a component of sodium tripolyphosphate anhydrous)

The dry powder may cause foreign body irritation in some individuals. 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. Prolonged

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contact with the dry powder may cause drying or chapping of the skin.

Acute studies indicate that this material 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 tetrasodium pyrophosphate 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.

Tetrasodium pyrophosphate produced no genetic changes in standard tests using bacterial and yeast cells.

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## 12. ECOLOGICAL INFORMATION

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity.

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

96 hr. LC 50 > 100 mg/L, non-toxic (Rainbow trout, Inland silversides and mysid schrimp). [FMC 189-1081, 1082 & 1083]

48 hr. EC 50 > 100 mg/L, non-toxic (Daphnia magna) [FMC 189-1084]

Astaris has not conducted biodegradation studies with this product since when dissolved/hydrolyzed in water it yields completely mineralized materials.

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## 13. DISPOSAL CONSIDERATIONS

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

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## 14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

### US DOT

Not regulated for transportation

### Canadian TDG

Not regulated for transportation

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## 15. REGULATORY INFORMATION

TSCA Inventory: Listed

DSL Inventory: Listed

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WHMIS Classification: D2(B) - Materials Causing Other toxic Effects

### SARA Hazard Notification

Hazard Categories Under Title III Rules (40 CFR 370): Immediate

Section 302 Extremely Hazardous Substances: Not Applicable

Section 313 Toxic Chemical(s): Not Applicable

CERCLA Reportable Quantity: Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

## 16. OTHER INFORMATION

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	1	0	0	
Suggested HMIS Rating	1	0	0	F

Reason for revision: New Company

Supersedes MSDS dated: Not Applicable

Product Use: Food Ingredient, Cleaning Compound

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