



# Material Safety Data Sheet

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: TRISODIUM PHOSPHATE (CRYSTALLINE)  
Reference Number: AST10065 Date: March 24, 2003  
Chemical Family: Phosphate Salts  
Chemical Name: Trisodium Orthophosphate  
Synonyms: Phosphoric Acid, Trisodium Salt Dodecahydrate, TSP Crystals, TSPC, TSP-X

### Company Information:

**Worldwide Hqts**  
**ASTARIS LLC**  
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St. Louis, Missouri 63141

**Europe Hqts**  
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Emergency telephone: In Europe call +39 (0) 3 568 5123  
In USA call CHEMTREC: 1 800 424 9300  
In Canada call CANUTEC: 1 613 996 6666

General Information: +39 (0) 2 921 02442 (Europe)  
+1 800 244 6166 (Worldwide)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Component</u>                  | <u>CAS No.</u> | <u>% by Weight</u> |
|-----------------------------------|----------------|--------------------|
| Trisodium Phosphate Dodecahydrate | 10101-89-0     | ~ 98               |
| Sodium Hydroxide                  | 1310-73-2      | 1.8 – 2.0          |

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Appearance and Odor: White, crystalline, free-flowing granules or powder with no odor

### WARNING STATEMENTS

DANGER!  
CAUSES EYE BURNS  
MAY CAUSE SKIN IRRITATION

### POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact and inhalation

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EYE CONTACT: This product causes eye burns based on toxicity studies. Injury may be permanent.

SKIN CONTACT: This product may cause pain, redness, swelling, and blisters. No more than slightly toxic based on toxicity studies.

INHALATION: Inhalation of heavy dust may severely irritate nose and throat.

INGESTION: No more than slightly toxic if swallowed based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed.

Refer to Section 11 for toxicological information.

**4. FIRST AID MEASURES**

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. If easy to do, remove any contact lenses. Get medical attention. Remove material from eyes, skin and clothing.

IF ON SKIN, immediately flush the area with plenty of water. Remove contaminated clothing. Get medical attention if irritation persists. Wash clothing and thoroughly clean shoes before reuse.

IF INHALED, immediate first aid is not likely to be required. However, if symptoms occur, remove to fresh air.

IF SWALLOWED, Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention. A Poison Control Center can be contacted for advice.

**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

**6. ACCIDENTAL RELEASE MEASURES**

In case of spill, sweep, scoop or vacuum and remove. Flush residual spill area with water.

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

**7. HANDLING AND STORAGE**HANDLING

Do not get in eyes, on skin, or on clothing.  
Avoid breathing dust.

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Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

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. Sealed containers should be kept free of water because of its corrosivity when wet.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**EYE PROTECTION:** Where there is potential for eye contact, wear goggles and have eye flushing equipment immediately available.

**SKIN PROTECTION:** Wear appropriate protective clothing and chemical resistant gloves to prevent skin contact. Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application. Wash immediately if skin is contaminated. Launder contaminated clothing and clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

**RESPIRATORY PROTECTION:** Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure is excessive. 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 minimize exposure. The use of local mechanical exhaust ventilation is preferred at sources of air contamination such as open process equipment. Consult NFPA Standard 91 for design of exhaust systems.

**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.

#### OSHA PEL

15 mg/m<sup>3</sup> (total dust) 8-hr TWA  
5 mg/m<sup>3</sup> (respirable) 8-hr TWA

#### ACGIH TLV

10 mg/m<sup>3</sup> (inhalable) 8-hr TWA  
3 mg/m<sup>3</sup> (respirable) 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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |  |
|---|--|
| Appearance:                                     | White, crystalline, free-flowing granules or powder  |
| Odor:   | None   |
| pH:   | 12.0 (as a 1% solution @ 25 degrees C)   |
| Solubility in Water (g/100 g H <sub>2</sub> O): | 11.6 @ 25 degrees C<br>17.5 @ 40 degrees C<br>35.3 @ 60 degrees C<br>61.3 @ 80 degrees C<br>84.5 @ 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.

## 10. STABILITY AND REACTIVITY

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

MATERIALS TO AVOID: This material could be corrosive to aluminum surfaces because of high pH.

HAZARDOUS DECOMPOSITION PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur

## 11. TOXICOLOGICAL INFORMATION

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

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

Oral - rat LD50: 6,500 mg/kg; practically nontoxic  
Dermal - rabbit LD50: > 7,940 mg/kg; practically nontoxic  
Eye Irritation - rabbit (4-hr exp.): corrosive  
Skin Irritation - rabbit: 3.3/8.0; moderately irritating

The anhydrous form of this material produced no mutagenic effects in standard assays using fruit flies.

## 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  
Warmwater Fish: 96-hr LC50 Bluegill sunfish: 440 mg/L; Practically Nontoxic  
Coldwater Fish: 96-hr LC50 Rainbow trout: 260 mg/L; Practically Nontoxic

No definitive algal toxicity data was available for this material.

No definitive biodegradation data was available for this material.

## 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.

## 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

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (contains sodium phosphate, tribasic\*)  
Hazard Class: 9  
Hazard Identification Number: UN3077  
Packing Group: III  
Transport Label: Class 9  
\*Applies only to packages containing an RQ, including ocean shipments within the U.S. territorial waters.

Canadian TDG

Proper Shipping Name: Sodium phosphate, tribasic\*  
Hazard Class: 9.2  
Hazard Identification Number: NA 9148  
Packing Group: III  
Transport Label: Class 9  
\*Applies only to packages containing an RL

Reportable Quantity/ Reportable Limit:

RQ: Packages of 5000 lb or more containing a reportable quantity of sodium phosphate, tribasic.  
RL: Packages of 230 kg or more containing a reportable limit of sodium phosphate, tribasic.

**15. REGULATORY INFORMATION**

TSCA Inventory: Listed  
DSL Inventory: Listed  
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: 5,000 lb RQ of Trisodium Phosphate Crystalline

Release of more than 5,000 pounds of this product to the environment in a 24 hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675).

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

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 | 3      | 0    | 0          |                        |
| Suggested HMIS Rating | 3      | 0    | 0          | J                      |

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Reason for revision: MSDS Review

Supersedes MSDS dated: November 15, 2001

Product Use: Food Ingredient, Cleaning compound

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