

MATERIAL SAFETY DATA SHEET

Trisodium Phosphate

Section 01 - Chemical And Product And Company Information

Product Identifier Trisodium phosphate

Product Use Industrial chemical, textiles, water treatment

Supplier Name ClearTech Industries Inc.
2302 Hanselman Avenue
Saskatoon, SK. Canada
S7L 5Z3

Prepared By ClearTech Industries Inc. Technical Department
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24-Hour Emergency Phone 306-664-2522



Section 02 - Composition / Information on Ingredients

Hazardous Ingredients	Trisodium phosphate dodecahydrate	60-100%
CAS Number	Trisodium phosphate dodecahydrate	10101-89-0
Synonym (s)	Sodium orthophosphate dodecahydrate	

Section 03 - Hazard Identification

Inhalation..... Material is irritating to mucous membranes and upper respiratory tract.
Exposure can cause coughing, chest pains and difficulty breathing.



- Skin Contact / Absorption**..... May cause moderate skin burns. May cause severe irritation, especially if skin is moist or wet.
- Eye Contact**..... May cause eye burns. May cause permanent corneal injury. May cause severe eye irritation.
- Ingestion**..... May cause burns of the mouth, throat and stomach. Aspiration in to the lungs may occur during ingestion or vomiting, resulting in lung injury.
- Exposure Limits**..... Not available

Section 04 - First Aid Measures

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention if difficulties persist.
- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
- Eye Contact**..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention if symptoms persist.
- Ingestion**..... Do not induce vomiting. Do not give anything by mouth to an unconscious person. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.



Additional Information..... Treat symptomatically. 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.

Section 05 - Fire Fighting

Conditions of Flammability..... Product does not burn

Means of Extinction..... Does not burn, use appropriate extinguishing media for surrounding fire.

Flash Point..... Not applicable

Auto-ignition Temperature..... Not applicable

Upper Flammable Limit Not applicable

Lower Flammable Limit..... Not applicable

Hazardous Combustible Products... Under fire conditions, oxides of sodium and phosphorus.

Special Fire Fighting Procedures..... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Explosion Hazards..... Not available



Section 06 - Accidental Release Measures

- Leak / Spill**..... Wear appropriate personal protective equipment. Scoop up or vacuum spilled material and place in appropriate closed container. Flush area with water to remove any trace residue. Prevent material from entering sewers.
- Deactivating Materials**..... Not available

Section 07 - Handling and Storage

- Handling Procedures**..... Avoid contact with eyes, skin and clothing. Avoid breathing in dust. Use with adequate ventilation. Wash thoroughly after handling. Potentially deadly carbon monoxide gas can form in enclosed area or tanks when alkaline products contain materials that contain sugars. Do not enter such areas until they have been well ventilated and carbon monoxide and oxygen levels have been determined safe. Continue to monitor atmosphere while personnel are in enclosure. Empty containers may contain hazardous product residues.
- Storage Requirements**..... Store in a cool, dry, well-ventilated area. Keep containers tightly closed.

Section 08 - Personal Protection and Exposure Controls

Protective Equipment

- Eyes**..... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
- Respiratory**..... NIOSH-approved respirator for dust should be worn, if needed.
- Gloves**..... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
- Clothing**..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
- Footwear**..... No special footwear is required other than what is mandated at place of work.

Engineering Controls



Ventilation Requirements..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other..... Emergency shower and eyewash should be in close proximity.

Section 09 - Physical and Chemical Properties

Physical State..... Solid

Odor and Appearance..... Odorless, white granular powder

Odor Threshold..... Not applicable

Specific Gravity (Water=1)..... Not available

Vapor Pressure (mm Hg, 20C)..... Not available

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

Evaporation Rate..... Not available

Boiling Point..... Not available

Freeze/Melting Point..... 75°C

pH..... 11.8 (1% Solution @ 25°C)

Water/Oil Distribution Coefficient.... Not available

Bulk Density..... Not available

% Volatiles by Volume..... Not available

Solubility in Water..... Soluble

Molecular Formula..... $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$

Molecular Weight..... 380.13

Section 10 - Stability and Reactivity

Stability..... Stable

Incompatibility..... Strong acids, magnesium metal



Hazardous Products of Decomposition.. Oxides of phosphorus and sodium

Polymerization..... Will not occur

Section 11 - Toxicological Information

Irritancy..... Irritating to skin & respiratory area, extremely irritating to eyes.

Sensitization..... Not available

Chronic/Acute Effects..... Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

Synergistic Materials..... Not available

Animal Toxicity Data..... LD₅₀(Oral, Rat): 7400mg/kg

Carcinogenicity..... Not listed with IARC, NTP, ACGIH, or OSHA as a carcinogen.

Reproductive Toxicity..... Not available

Teratogenicity..... Not available

Mutagenicity..... Not available

Section 12 - Ecological Information

Fish Toxicity..... EC₅₀(96hr, Mosquitofish): 151mg/L

Biodegradability..... The resulting phosphate may persist indefinitely or incorporate into biological systems.

Environmental Effects..... Not available

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transportation Information

TDG Classification

Class..... 9

Group..... III

PIN Number..... UN3077

Other..... Secure containers (full and/or empty) with suitable hold down devices during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....E

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS

Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / MSDS coordinator

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If you have any questions or concerns please call our customer service or technical service department.



ClearTech Industries Inc. - Locations

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Location	Address	Postal Code	Phone Number	Fax Number
Richmond, B.C.	12431 Horseshoe Way	V7A 4X6	604-272-4000	604-272-4596
Calgary, AB.	5516E - 40 th St. S.E.	T2C 2A1	403-279-1096	403-236-0989
Edmonton, AB.	11750 - 180 th Street	T5S 1N7	780-452-6000	780-452-4600
Saskatoon, SK.	2302 Hanselman Avenue	S7L 5Z3	306-933-0177	306-933-3282
Regina, SK.	555 Henderson Drive	S42 5X2	306-721-7737	306-721-8611
Winnipeg, MB.	340 Saulteaux Crescent	R3J 3T2	204-987-9777	204-987-9770
Mississauga, ON.	7480 Bath Road	L4T 1L2	905-612-0566	905-612-0575

24 Hour Emergency Number - All Locations - 306-664-2522