Safety Data Sheet



\ Tetrasodium Pyrophosphate

Section 1 - Product and Company Identification

Material Name • Tetrasodium Pyrophosphate

 CAS Number
 • 7722-88-5

 EINECS
 • 231-767-1

 Molecular Formula
 • Na4P2O7

 Molecular Weight
 • 265.91

Product Description • White crystalline solid with no odor.

Synonyms • Anhydrous Tetrasodium Pyrophosphate; TSPP

Distributor • Global Chemical Resources 1925 Nebraska Avenue

Toledo, OH 43607

Telephone

Technical • 419-242-1004

Emergency • 800-424-9300 (Chemtrec)

Preparation Date 5/1/2015

Section 2 - Hazards Identification

Emergency Overview

WARNING

May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation. May be harmful if swallowed.

Prevention Keep container tightly closed. Avoid breathing dust, fume, gas, mist, vapours and/or spray. Wear

protective gloves, clothing, and eye/face protection, . Wash: thoroughly after handling.

Response IF INHALED: Remove victim to fresh air and keep at rest in a postion comfortable for breathing. If skin

irritation occurs: Get medical advice/attention. Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists:

Get medical advice/attention.

Storage/Disposal Store in a well-ventilated place. Store locked up. Dispose of content and/or container in accordance

with local, regional, national, and/or international regulations.



OSHA

WHMIS

Irritant

Class D - Poisonous and Infectious Materials - Division 2 - Subdivision B



EU

Irritant - XiR36/37/38



GHS

Specific Target Organ Toxicity Single Exposure - Category 3, Skin Corrosion/Irritation
 Category 2, Serious Eye Damage, Eye Irritation - Category 2A, Acute Toxicity - Category 5

Route Of Entry Medical Conditions Aggravated by Exposure

- Inhalation, Skin, Eye, Ingestion
- Disorders of the lungs, Skin





Potential Health Effects

Inhalation

Acute (Immediate)

Chronic (Delayed)

• May cause respiratory irritation.

No data available.

Skin

Acute (Immediate)

Chronic (Delayed)

May cause irritation.

No data available.

Eve

Acute (Immediate)

Chronic (Delayed)

May cause severe irritation. May cause redness, burns.

No data available.

Ingestion

Acute (Immediate)

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

Chronic (Delayed) • No data available.

Carcinogenic Effects

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

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

Hazardous Components									
Chemical Name CAS %(weight) UN;EINECS LD50/LC50 EU Classification & R Phrases									
Diphosphoric acid, sodium salt (1:4)	7722-88-5	100%	231-767-1	Ingestion/Oral-Rat LD50: =4 g/kg	NDA	NDA			

Under United States Regulations (29 CFR 1900.1200 - Hazard Communication Standard), this product is considered hazardous. In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS). This product is considered dangerous according to the European Directive 67/548/EEC. According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered hazardous.

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

Inhalation

Ingestion

Skin

Eve

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
 - Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses if worn. Seek immediate medical attention, preferably with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 20 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.
 - Do NOT induce vomiting. If swallowed give 2-3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. Rinse mouth. Obtain medical attention immediately if ingested. Do not leave victim unattended. Vomiting may occur spontaneously. 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.
 - 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.

Other Information

Notes to Physician

 Call 911 or emergency medical service. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

See Section 2 for Potential Health Effects.

Section 5 - Fire Fighting Measures

Extinguishing Media Unsuitable Extinguishing Media

- Not combustible. Use extinguishing media suitable for surrounding fire.
- None known.

Firefighting Procedures

LARGE FIRES: Move containers from fire area if you can do it without risk.
 LARGE FIRES: Do not scatter spilled material with high pressure water streams.
 LARGE FIRES: Dike fire-control water for later disposal.

Unusual Fire and Explosion Hazards

Non-combustible.

Hazardous Combustion Products

Protection of Firefighters

None known.

 Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

Personal Precautions

 Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material.

Emergency Procedures Environmental Precautions

- Keep unauthorized personnel away. Ventilate closed spaces before entering.
- 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 sate and/or local agencies.

Containment/Clean-up Measures

 Avoid generating dust. SMALL DRY SPILLS: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Clean up residual material by washing area with water. Collect washings for disposal. Decontaminate tools and equipments after cleanup. LARGE SPILLS: Cover powder spill with plastic sheet or tarp to minimize spreading.

Prohibited Materials

None known.

Section 7 - Handling and Storage

Handling

 Keep containers closed when not in use. Do not breathe (dust, vapor or spray mist) Do not get on skin or in eyes. Do not ingest. Do not use in areas without adequate ventilation.

Storage

Store in a tightly closed container. Store in an area that is sanitary, dry, wellventilated, cool, isolated from all toxic and harmful substances, away from ignition sources.

Special Packaging Materials • Incompatible Materials or Ignition Sources

- None known.
- None known.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment

Pictograms



Respiratory

For limited exposure use an N95 dust mask. For prolonged exposure use an airpurifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face Hands

Wear safety glasses.

Wear appropriate gloves.

General Industrial Hygiene Considerations

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

Engineering Measures/Controls

Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Exposure Limits/Guidelines										
	Result	ACGIH	Argentina	Australia	Canada Ontario	Canada Quebec				
Tetrasodium Pyrophosphate	TWAs	10 mg/m3 TWA (inhalable particles, recommended); 3 mg/m3 TWA (respirable particles, recommended) as Particulates not otherwise classified (PNOC)	10 mg/m3 TWA (inhalable fraction, particulate matter containing no asbestos and less than 1% crystalline silica); 3 mg/m3 TWA (respirable fraction, particulate matter containing no asbestos and less than 1% crystalline silica) as Particulates not otherwise classified (PNOC)	Not established	10 mg/m3 TWAEV (inhalable particulate); 3 mg/m3 TWAEV (respirable particulate) as Particulates not otherwise classified (PNOC)	10 mg/m3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica) as Particulates not otherwise classified (PNOC)				
Diphosphoric acid, sodium salt (1:4) (7722-88-5)	TWAs	Not established	5 mg/m3 TWA	5 mg/m3 TWA	5 mg/m3 TWAEV	5 mg/m3 TWAEV				
		Ex	posure Limits/Gu	idelines(Con't.)						
	Result	China	Indonesia	Korea	Malaysia	New Zealand				
Tetrasodium Pyrophosphate	TWAs	8 mg/m3 TWA (free SiO2 <10%, except asbestos and toxic substances. Use PC-TWA of silica When free SiO2 >10%, total) as Particulates not otherwise classified (PNOC)	10 mg/m3 NAB (not containing asbestos and the crystal content is <1%, inhalable particulate); 3 mg/m3 NAB (not containing asbestos and the crystal content is <1%, respirable particulate) as Particulates not otherwise classified (PNOC)	Not established	10 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, inhalable fraction); 3 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction) as Particulates not otherwise classified (PNOC)	10 mg/m3 TWA (inspirable dust); 3 mg/m3 TWA (respirable dust) as Particulates not otherwise classified (PNOC)				
	STELs	16 mg/m3 STEL (free SiO2 <10%, except asbestos and toxic substances. Use PC-STEL of silica When free SiO2 >10%, total) as Particulates not otherwise classified (PNOC)	Not established	Not established	Not established	Not established				
Diphosphoric acid, sodium salt (1:4) (7722-88-5)	TWAs	Not established	5 mg/m3 NAB	5 mg/m3 TWA	5 mg/m3 TWA	5 mg/m3 TWA				
	Exposure Limits/Guidelines(Con't.)									
	Result	NIOSH	OSHA	OSHA Vacated	Singapore	South Africa				
			15 mg/m3 TWA (total dust); 5 mg/m3 TWA	15 mg/m3 TWA (total dust); 5 mg/m3 TWA	10mg/m3PEL					

Tetrasodium Pyrophosphate	TWAs	Not established	(respirable fraction) as Particulates not otherwise classified (PNOC)	(respirable fraction) as Particulates not otherwise classified (PNOC)	as Particulates not otherwise classified (PNOC)	Not established
Diphosphoric acid, sodium salt (1:4) (7722-88-5)	TWAs	5 mg/m3 TWA	Not established	5 mg/m3 TWA	5 mg/m3 PEL	5 mg/m3 TWA

Exposure Limits/Guidelines (Con't.)								
	Result	Switzerland	Taiwan	United States - California				
Tetrasodium Pyrophosphate	TWAs Not established		Not established	10 mg/m3 PEL (total dust); 5 mg/m3 PEL (respirable fraction) as Particulates not otherwise classified (PNOC)				
Diphosphoric acid,	TWAs Not established		5 mg/m3 TWA	5 mg/m3 PEL				
sodium salt (1:4) (7722-88-5)	MAKs	5 mg/m3 MAK (inhalable)	Not established	Not established				

Exposure Control Notations

South Africa

PEL

Diphosphoric acid, sodium salt (1:4) (7722-88-5): Skin: (Skin Notation)

Key to abbreviations

MSHA = Mine Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15minute exposures

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible

concentration NIOSH = National Institute of Occupational Safety and Health = Time-Weighted Averages are based on 8h/day, 40h/week exposures

NAB = Threshold Values (Indonesia)

TWAEV = Time-Weighted Average Exposure Value

ACGIH = American Conference of Governmental Industrial

Permissible Exposure Level determined by the Occupational Safety and

Health Administration (OSHA)

OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties

Physical Form

Solid

Appearance/Description

· White crystalline solid with no odor.

Color: White		Odor: Odorless		
Taste: NDA		Odor Threshold: NDA		
Boiling Point:	NDA	Vapor Pressure:	NDA	
Melting Point:	985 C(1805 F)	Vapor Density:	NDA	
Specific Gravity:	2.534	Evaporation Rate:	NDA	
Density:	158.1973 lb(s)/ft ³	VOC (Wt.):	NDA	
Bulk Density:	0.5 to 1 g/cm ³	VOC (Vol.):	NDA	
Water Solubility:	Soluble 5 %	Volatiles (Wt.):	NDA	
SolventSolubility:	NDA	Volatiles (Vol.):	NDA	
Viscosity:	NDA	Flash Point:	NDA	
Half-Life:	NDA	Flash Point Test Type:	NDA	
Octanol/Water Partition coefficient:	NDA	UEL:	NDA	

Coefficient of Water:	NDA	LEL:	NDA
Bioaccumulation Factor:	NDA	Autoignition:	NDA
pH:	10.2 (@ 1 wt/wt%)		

Section 10 - Stability and Reactivity

Stability

Stable under normal temperatures and pressures.

Hazardous Polymerization

Hazardous polymerization will notoccur.

Conditions to Avoid Incompatible Materials Dusting conditions. Moisture.

Hazardous Decomposition

No data available

Products

None known.

Section 11 - Toxicological Information

Other Material Information May cause irritation to skin, eye and respiratory tract.

Tetraso	nate	7722-88-5							
Test Type	Dosage	Units	Route	Species	Duration	Results	Test Class	Target Organs	Comments
Irritation	NDA	NDA	Eye	Rabbit	NDA	NDA	Severe irritation,	NDA	Unwashed
Irritation	NDA	NDA	Skin	Rabbit	NDA	NDA	Essentially Non- irritating	NDA	Washed
Acute Toxicity	>2000	mg/kg	Skin	Rabbit	NDA	LD50	NDA	NDA	NDA
Acute Toxicity	4000	mg/kg	Ingestion/Oral	Rat	NDA	LD50	NDA	NDA	NDA
Acute Toxicity	2980	mg/kg	Ingestion/Oral	Mouse	NDA	LD50	NDA	NDA	NDA
Acute Toxicity	2150	mg/kg	Ingestion/Oral	Rat (Male)	NDA	LD50	NDA	NDA	NDA
Acute Toxicity	1825	mg/kg	Ingestion/Oral	Rat (Female	NDA	LD50	NDA	NDA	NDA

Key to abbreviations

LD = Lethal Dose

Section 12 - Ecological Information

Ecological Fate

No data found for product.

Persistence/Degradability • No data found for product. Bioaccumulation Potential • No data found for product.

Mobility in Soil

No data found for product.

Other Information

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

Section 13 - Disposal Considerations

Product

 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transportation Information

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT - United States - Department of Transportation

Shipping Name: Not Regulated

TDG - Canada - Transport of Dangerous Goods

Shipping Name: Not Regulated

IMO/IMDG –International Maritime Transport

Shipping Name: Not Regulated

ADN - Europe Transport of Dangerous Goods by Road/Inland Waterway

Shipping Name: Not Regulated

IATA - International Air Transport Association

Shipping Name: Not Regulated

ADR - Europe Transport of Dangerous Goods by Road/Inland Waterway

Shipping Name: Not Regulated

RID - Europe Transport of Dangerous Goods by Railways

Shipping Name: Not Regulated

Section 15 - Regulatory Information

SARA Hazard Classifications - Acute

Risk & Safety Phrases

• R36/37/38 Irritating to eyes, respiratory system and skin. S24/25 Avoid contact with skin and eyes.

S22 Do not breathe dust.

Inventory									
Component	CAS	Australia AICS	Canada DSL	Canada NDSL	China	EUEINECS			
Diphosphoric acid, sodium salt (1:4)	7722-88-5	Yes	Yes	No	Yes	Yes			
	Inventory (Con't.)								
Component	CAS	EU ELNICS	Japan ENCS	Korea KECL	New Zealand	Philippines PICCS			
Diphosphoric acid, sodium salt (1:4)	7722-88-5	No	Yes	Yes	Yes	Yes			
			Inventory (Co	n't.)					
Component		CAS	Switzerland	SWISS	TSCA				
Diphosphoric acid, sodium salt (1:4)		7722-88-5		No	Yes				

Australia

Labor

Australia - High Volume Industrial Chemicals List

• Diphosphoric acid, sodium salt (1:4) 7722-88-5 100%

Australia - List of Designated Hazardous Substances - Classification

 Diphosphoric acid, sodium salt (1:4)
 7722-88-5 100% Self classification required

Environment

Australia - National Pollutant Inventory (NPI) Substance List

None Listed

Australia - Priority Existing Chemical Program

None Listed

Other

The Australia Group - Export Control List - Chemical Weapons Precursors

None Listed

Canada

Labor

Canada - List of Prohibited and Restricted Cosmetic Ingredients (The Cosmetic Ingredient Hotlist)

None Listed

Canada - WHMIS - Classifications of Substances

• Diphosphoric acid, sodium salt (1:4) 7722-88-5 100% D2B

Canada - WHMIS - Ingredient Disclosure List

• Diphosphoric acid, sodium salt (1:4) 7722-88-5 100% 1 %

Environment

Canada - CEPA - Priority Substances List

None Listed

China

Other

China - Annex I & II - Controlled Chemicals Lists

None Listed

China - Dangerous Goods List

None Listed

Croatia

Environment

Croatia - Air Quality - Emission Limits for Stationary Sources

None Listed

Croatia - Air Quality - Limit Values for Gaseous Pollutants

None Listed

Croatia - Air Quality - Recommended Values for Gaseous Pollutants

None Listed

Croatia - Ozone Depleting Substances - Annex A, Group I

None Listed

Egypt

Environment

Egypt - Air Pollutants - Emissions Limits - Overall Particles

None Listed

Egypt - Air Pollutants - Maximum Limits

None Listed

Europe

Environment

EU - Substances Depleting the Ozone layer (1005/2009) - Annex I Substances

None Listed

EU - Seveso II Directive (96/82/EC) - Qualifying Quantities for Major Accident Notification

None Listed

EU - Seveso II Directive (96/82/EC) - Qualifying Quantities for Safety Report Requirements

None Listed

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

None Listed

EU - Hazardous Substances Restricted or Prohibited in Electrical Equipment (2002/95/EC) (RoHS)

None Listed

India

- Environment

India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals

None Listed

India - Ozone Depleting Substances - Schedule I

None Listed

Indonesia

Environment

Indonesia - Hazardous Waste from Non-Specific Sources

None Listed

Indonesia - Hazardous Waste from Specific Sources

None Listed

Japan

⁻Labor

Japan - ISHL Dangerous Substances

None Listed

Japan - ISHL Designated Carcinogens

None Listed

Japan - ISHL Harmful Substances Prohibited for Manufacture

None Listed

Japan - ISHL Notifiable Substances

Diphosphoric acid,

sodium salt (1:4)

7722-88-5 100% 1 % weight

Environment

Japan - Air Pollution Control Law - Emission Standards for Air Pollutants

None Listed

Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

None Listed

Korea

Labor

Korea - MOE - Harmful Substances

None Listed

Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances

None Listed

Environment

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Observational Chemicals

None Listed

Malaysia

Labor

Malaysia - Occupational Safety & Health - Risk Phrases

None Listed

Malaysia - Occupational Safety & Health - Safety Phrases

None Listed

Environment

Malaysia - Clean Air Regulations - Noxious and Offensive Substances

None Listed

Mexico

Environment

Mexico - Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities

None Listed

Other

Mexico - Hazard Classifications

None Listed

Mexico - Regulated Substances

None Listed

New Zealand

-Other

New Zealand - Ozone Depleting Substances

None Listed

Other Agency Information

Other

AIHA - Emergency Response Planning Guidelines - ERPG-1 Values

None Listed

AIHA - Emergency Response Planning Guidelines - ERPG-2 Values

None Listed

AIHA - Emergency Response Planning Guidelines - ERPG-3 Values

None Listed

Philippines

Environment

Philippines - Ozone Depleting Substances - Annex A - Group I

None Listed

Other

Philippines - Priority Chemical List

None Listed

Singapore

Environment

Singapore - Air Impurities Emission Limits

None Listed

Singapore - List of Hazardous Substances

None Listed

South Africa

Labor

South Africa - General Machinery Regulations - Notifiable Substances

None Listed

Taiwan

Environment

Taiwan - Toxic Chemical Substances Control Act - Threshold Regulated Quantities

None Listed

Taiwan - Toxic Chemical Substances Control Act - Classification and Control Levels

None Listed

Thailand

Labor

Thailand - Air Contaminant Standards

None Listed

Environment

Thailand - Quantities of Chemicals

None Listed

Other

Thailand - Hazardous Substances

None Listed

United States

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

None Listed

U.S. - CAA (Clean Air Act) - Class I Ozone Depletors

None Listed

U.S. - CAA (Clean Air Act) - Class II Ozone Depletors

None Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

None Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

None Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

None Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

None Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents

None Listed

U.S. - SDWA (Safe Drinking Water Act) - CCL (Contaminant Candidate List)

None Listed

Vietnam

Environment

Vietnam - Air Quality - Ambient Air Quality Standards

None Listed

Vietnam - Air Quality - Industrial Emission Standards

None Listed

Vietnam - Air Quality - Maximum Allowable Concentration of Highly Hazardous Chemicals

None Listed

Section 16 - Other Information

Preparation Date Last Revision Date

5/1/2015 5/1/2015

Disclaimer/Statement of Liability

 The information herein is given in good faith but no warranty, expressed or implied, is made.

> **Key to abbreviations** NDA = No Data Available