



SAFETY DATA SHEET TETRASODIUM PYROPHOSPHATE REVISION 5, DATE 18 JUN 21

1. IDENTIFICATION

Product Name	Tetrasodium pyrophosphate
Other Names	Sodium pyrophosphate; Tetrasodium pyrophosphate, anhydrous; TSPP
Uses	Food additive; Buffering agent in foods and puddings; Sequestering agent; Water treatment.
Chemical Family	No Data Available
Chemical Formula	Na ₄ O ₇ P ₂
Chemical Name	Diphosphoric acid, tetrasodium salt
Product Description	Mono-constituent substance (inorganic).

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled



Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Acute Toxicity (Oral) - Category 4
Serious Eye Damage/Irritation - Category 1

Pictograms

Signal Word Danger

Hazard Statements **H302** Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary Statements

Prevention	P280	Wear eye protection/face protection.
	P264	Wash hands thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
Response	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.
	P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
	P330	Rinse mouth.
Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Tetrasodium pyrophosphate	Na ₄ O ₇ P ₂	7722-88-5	<=100 %

4. FIRST AID MEASURES**Description of necessary measures according to routes of exposure**

Swallowed IF SWALLOWED: Rinse mouth, then give 2-3 glasses of water. Do not induce vomiting. Call a Poison Centre or doctor/physician for advice. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Never give anything by mouth to an unconscious person.

Eye	<p>IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice.</p> <p>*If medical/ophthalmologist attention is not immediately available, eye irrigation should be continued for an additional 15 minutes. If it is necessary to transport the patient and the eye needs to be bandaged, use a dry sterile cloth pad and cover both eyes.</p>
Skin	<p>IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.</p>
Inhaled	<p>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.</p>
Advice to Doctor	<p>Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.</p> <p>*Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair.</p>
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	<p>If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal.</p>
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	<p>If material is involved in a fire, use dry chemical, Carbon dioxide (CO₂), foam or water spray for extinction. Do not scatter spilled material with high pressure water streams. Use extinguishing media suitable for surrounding fire.</p>
Fire and Explosion Hazard	Ambient fire may liberate hazardous vapours.
Hazardous Products of Combustion	Fire or heat will produce irritating, toxic and/or corrosive gases, including oxides of Phosphorus and oxides of Sodium.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	<p>Ensure adequate ventilation - Ventilate closed spaces before entering. Do not walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.</p>
Clean Up Procedures	<p>Do not flush to drain. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.</p>
Containment	Stop leak if you can do it without risk. Cover powder spill with plastic sheet or tarp to minimise spreading.
Decontamination	<p>Clean up residual material by washing area with water. Collect washings for disposal (see SECTION 13). Decontaminate tools and equipment after cleanup.</p>
Environmental Precautionary Measures	Prevent material from entering public sewer system or any waterways. Spills may be reportable to state and/or local agencies.
Evacuation Criteria	<p>Spill or leak area should be isolated immediately. Keep unauthorised personnel away.</p> <p>Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).</p>

Personal Precautionary Measures

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Do not use in areas without adequate ventilation! Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust/vapour/spray mist and contact with eyes, skin and clothing. Do not ingest. Wear appropriate protective clothing (see SECTION 8).
Storage	Store in an area that is sanitary, cool, dry, well-ventilated and out of direct sunlight. Keep containers tightly closed when not in use. Keep away from heat and sources of ignition - No smoking. Keep away from toxic and incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Tetrasodium pyrophosphate (CAS No. 7722-88-5): - Safe Work Australia Exposure Standard: TWA = 5 mg/m ³ - New Zealand Workplace Exposure Standard: TWA = 5 mg/m ³
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection if exposure limits are exceeded or symptoms are experienced. Recommended: For limited exposure use a dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tightly fitting safety goggles. - Hand protection: Handle with gloves. Recommended: Impervious gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
Special Hazards Precautions	No information available.
Work Hygienic Practices	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. Take off contaminated clothing and wash it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder or granules
Odour	Odourless
Colour	White
pH	10.2 (1% solution)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	988 °C

Freezing Point	No Data Available
Solubility	Soluble in water (7 %)
Specific Gravity	2.45 - 2.534 (Water = 1)
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	0.5 - 1 g/cm ³
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Fire or heat will produce irritating, toxic and/or corrosive gases, including oxides of Phosphorus and oxides of Sodium. *Ambient fire may liberate hazardous vapours.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Hygroscopic.
Chemical Stability	Stable under normal temperatures and pressures.
Conditions to Avoid	Avoid generating dust.
Materials to Avoid	Incompatible/reactive with strong oxidising agents.
Hazardous Decomposition Products	Fire or heat will produce irritating, toxic and/or corrosive gases, including oxides of Phosphorus and oxides of Sodium.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION**General Information**

- Acute toxicity: Harmful if swallowed. May cause burns to mouth and esophagus, nausea, vomiting and diarrhoea.
- Skin corrosion/irritation: May cause irritation.
- Eye damage/irritation: Causes serious eye damage. May cause severe irritation. May cause redness, burns.
- Respiratory/skin sensitisation: No information available.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.
- Reproductive toxicity: No information available.
- STOT (single exposure): May cause respiratory irritation.
- STOT (repeated exposure): No information available.
- Aspiration toxicity: No information available.

Acute**Ingestion**

Acute toxicity (Oral):
- LD50, Rat (female): 300 - 2,000 mg/kg bw. [OECD Test Guideline 420; ECHA].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

No information available.

Persistence/Degradability

While the alkalinity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.

Mobility

No information available.

Environmental Fate

Prevent material from entering public sewer system or any waterways.

Bioaccumulation Potential

No information available.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Dispose of contents/container in accordance with local/regional/national regulations.

Special Precautions for Land Fill

Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14. TRANSPORT INFORMATION**Land Transport (Australia)****ADG Code****Proper Shipping Name**

Tetrasodium pyrophosphate

Class

No Data Available

Subsidiary Risk(s)

No Data Available

No Data Available

UN Number

No Data Available

Hazchem

No Data Available

SAFETY DATA SHEET TETRASODIUM PYROPHOSPHATE REVISION 5, DATE 18 JUN 21

Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Tetrasodium pyrophosphate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Tetrasodium pyrophosphate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Tetrasodium pyrophosphate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Tetrasodium pyrophosphate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available

SAFETY DATA SHEET TETRASODIUM PYROPHOSPHATE REVISION 5, DATE 18 JUN 21

Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Tetrasodium pyrophosphate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Additives Process Chemicals and Raw Materials Subsidiary Hazard Group Standard 2020 HSR002503 *HSR003084 (Revoked)
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	231-767-1
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined

Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	TESOPF1000, TESOPF1001, TESOPF1002, TESOPF1003, TESOPF1004, TESOPF1005, TESOPF1006, TESOPF1007, TESOPF1500, TESOPF1801, TESOPF2000, TESOPF2001, TESOPF2100, TESOPF2300, TESOPF3000, TESOPF3200, TESOPF3300, TESOPF3301, TESOPF3315, TESOPF3318, TESOPF4000, TESOPF4100, TESOPF4200, TESOPF4400, TESOPF5500, TESOPF5600, TESOPF5700, TESOPF5701, TESOPF5710, TESOPF5711, TESOPF5721, TESOPF5740, TESOPF7000, TESOPF7500, TESOPF8000, TESOPF8100, TESOPF8300, TESOPF8400, TESOPF8500, TESOPY0800, TESOPY1000, TESOPY1001, TESOPY1002, TESOPY1003, TESOPY1004, TESOPY1005, TESOPY1006, TESOPY1007, TESOPY1008, TESOPY1009, TESOPY1010, TESOPY1011, TESOPY1012, TESOPY1013, TESOPY1014, TESOPY1015, TESOPY1016, TESOPY1017, TESOPY1018, TESOPY1019, TESOPY1020, TESOPY1021, TESOPY1022, TESOPY1052, TESOPY1500, TESOPY1800, TESOPY1801, TESOPY2000, TESOPY2001, TESOPY2002, TESOPY3000, TESOPY3001, TESOPY4000, TESOPY4100, TESOPY6000, TESOPY6001, TESOPY6002, TESOPY7000, TESOPY7001, TESOPY7100, TESOPY7200, TESOPY7500, TESOPY7501, TESOPY7502, TESOPY7600, TESOPY7601, TESOPY8000, TESOPY8500
Revision	5
Revision Date	18 Jun 2021
Key/Legend	<p>< Less Than</p> <p>> Greater Than</p> <p>AICS Australian Inventory of Chemical Substances</p> <p>atm Atmosphere</p> <p>CAS Chemical Abstracts Service (Registry Number)</p> <p>cm² Square Centimetres</p> <p>CO₂ Carbon Dioxide</p> <p>COD Chemical Oxygen Demand</p> <p>deg C (°C) Degrees Celcius</p> <p>EPA (New Zealand) Environmental Protection Authority of New Zealand</p> <p>deg F (°F) Degrees Fahrenheit</p> <p>g Grams</p> <p>g/cm³ Grams per Cubic Centimetre</p> <p>g/l Grams per Litre</p> <p>HSNO Hazardous Substance and New Organism</p> <p>IDLH Immediately Dangerous to Life and Health</p> <p>immiscible Liquids are insoluable in each other.</p> <p>inHg Inch of Mercury</p> <p>inH₂O Inch of Water</p> <p>K Kelvin</p> <p>kg Kilogram</p> <p>kg/m³ Kilograms per Cubic Metre</p> <p>lb Pound</p> <p>LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.</p> <p>LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.</p> <p>ltr or L Litre</p>

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight