

1. IDENTIFICATION

Product Name	Trisodium Phosphate
Other Names	Sodium phosphate, tribasic; Trisodium orthophosphate; Trisodium phosphate, anhydrous; TSP
Uses	Water processing; Washing agent and detergent; Textile and leather agent; Ceramic; Enamel; Colours; Food additive.
Chemical Family	No Data Available
Chemical Formula	Na ₃ PO ₄
Chemical Name	Phosphoric acid, trisodium salt
Product Description	No Data Available

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)

Schedule 5

Globally Harmonised System

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

Hazard Categories Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Irritation - Category 1
Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms



Signal Word Danger

Hazard Statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Precautionary Statements	Prevention	P280	Wear protective gloves/eye protection/face protection.
		P261	Avoid breathing dusts or mists.
		P271	Use only outdoors or in a well-ventilated area.
	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.
		P302 + P352	IF ON SKIN: Wash with plenty of water.
		P312	Call a POISON CENTER or doctor if you feel unwell.
		P332 + P313	If skin irritation occurs: Get medical attention.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	Storage	P362 + P364	Take off contaminated clothing and wash it before reuse.
		P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Disposal	P405	Store locked up.	
	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)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Trisodium phosphate, anhydrous	Na ₃ PO ₄	7601-54-9	>=98 - 100 %

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

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Never give anything by mouth to an unconscious person.
Eye	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 flushing until advised to stop by a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor, or for at least 15 minutes.
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin and hair with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse. *For minor skin contact, avoid spreading material on unaffected skin.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Advice to Doctor	Keep victim calm and warm. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. *Most important symptoms and effects, both acute and delayed: Causes serious eye damage. Causes skin irritation. May cause respiratory irritation.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	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.
Flammability Conditions	Non-combustible solid.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction.
Fire and Explosion Hazard	Ambient fire may liberate hazardous vapours.
Hazardous Products of Combustion	Thermal decomposition can lead to release of irritating and toxic gases and vapours, including oxides of Phosphorus, Sodium oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
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	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Carefully shovel or sweep up spilled material and place in suitable container for recovery or disposal (see SECTION 13).
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	Clean contaminated objects and areas thoroughly observing environmental regulations.
Environmental Precautionary Measures	Do not allow to enter sewers, surface or ground water.
Evacuation Criteria	Spill or leak area should be isolated immediately. Evacuate personnel to safe areas. Keep unauthorised/unprotected personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated place. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture/humidity. Keep away from heat and sources of ignition - No smoking. Keep away from food/feedstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container. *Do not store in aluminium containers. Do not store in galvanized containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
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: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tight sealing safety goggles. - Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls. Boots.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Take off contaminated clothing and wash it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
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Appearance	Powder
Odour	Odourless
Colour	White and/or pink
pH	11.5 - 12.5 (10 g/l @ 20 °C)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	75 °C
Freezing Point	No Data Available
Solubility	140 g/l in water 20°C
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	600 - 900 kg/m ³ (20 °C)
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.7 g/cm ³
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 solid.
Reactions That Release Gases or Vapours	Thermal decomposition can lead to release of irritating and toxic gases and vapours, including oxides of Phosphorus, Sodium oxides.
Release of Invisible Flammable Vapours and Gases	Aqueous solutions will react with aluminium, generating hydrogen gas.

10. STABILITY AND REACTIVITY

General Information Corrosive to metals in the presence of moisture.

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Avoid generating dust. Protect from moisture/humidity.
Materials to Avoid	Incompatible/reactive with strong acids, metals.
Hazardous Decomposition Products	No decomposition if used according to specifications. Thermal decomposition can lead to release of irritating and toxic gases and vapours, including oxides of Phosphorus, Sodium oxides. *Aqueous solutions will react with aluminium, generating hydrogen gas.
Hazardous Polymerisation	Hazardous polymerisation does not occur.

11. TOXICOLOGICAL INFORMATION

General Information

Information on toxicological effects:

- Acute toxicity: Trisodium phosphate is of low acute toxicity.
- Skin corrosion/irritation: Causes skin irritation.
- Eye damage/irritation: Causes serious eye damage.
- Respiratory/skin sensitisation: No sensitising effects known.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: Not listed as carcinogenic according to IARC, NTP, OSHA.
- Reproductive toxicity: No information available.
- STOT (single exposure): May cause respiratory irritation.
- STOT (repeated exposure): No information available.
- Aspiration toxicity: No information available.

Information on likely routes of exposure:

- Ingestion: Can burn mouth, throat and stomach.
 - Eye contact: Causes serious eye damage. May cause redness and tearing of the eyes.
 - Skin contact: Causes skin irritation. Erythema (skin redness).
 - Inhalation: May cause respiratory irritation (mucous membranes).
- Chronic effects: No information available.

Acute

Ingestion

Acute toxicity (Oral):

- LD50, Rat: >2,000 mg/kg bw. [OECD TG 420; NICNAS].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION

Ecotoxicity

Rinse-off of large amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value is harmful to aquatic organisms.

Persistence/Degradability

No information available.

Mobility

No information available.

Environmental Fate

Slightly hazardous for water - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	Trisodium phosphate, anhydrous
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 (Malaysia)

ADR Code

Proper Shipping Name	Trisodium phosphate, anhydrous
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	Trisodium phosphate, anhydrous
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	Trisodium phosphate, anhydrous
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available

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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 Trisodium phosphate, anhydrous
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
EMS No Data Available
Marine Pollutant No
Comments NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name Trisodium phosphate, anhydrous
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)

15. REGULATORY INFORMATION

General Information ALKALINE SALTS
Poisons Schedule (Aust) Schedule 5

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code HSR002503 - Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020

National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	231-509-8
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
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	TRSODF1000, TRSODF1001, TRSODF1300, TRSODF1800, TRSODF1810, TRSODF4500, TRSODF4700, TRSODF4710, TRSODF5300, TRSODF6000, TRSODF6200, TRSODF7000, TRSODF8000, TRSODF8200, TRSODF8300, TRSODI2100, TRSODI2200, TRSODI2500, TRSODI3500, TRSODI3501, TRSODI3510, TRSODI5000, TRSODI5001, TRSODI5002, TRSODI7500, TRSODI7501, TRSODI7600, TRSODI7700, TRSODI7701, TRSODI8700, TRSODI8701, TRSODI8702, TRSODI8703
Revision	5
Revision Date	04 Jun 2023
Reason for Issue	Updated SDS
Key/Legend	<p>< Less Than > Greater Than</p> <p>AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism</p>

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IDLH Immediately Dangerous to Life and Health

immiscible Liquids are insoluble in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

lb Pound

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.

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.

ltr or **L** Litre

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