

1. IDENTIFICATION

Product Name	Trisodium phosphate, dodecahydrate
Other Names	Sodium phosphate, tribasic; Trisodium orthophosphate, dodecahydrate
Uses	Cosmetic, domestic and commercial use in cleaning and/or washing agents or additives; food additive.
Chemical Family	No Data Available
Chemical Formula	Na ₃ PO ₄ .12H ₂ O
Chemical Name	Phosphoric acid, trisodium salt, dodecahydrate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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 2A Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms



Signal Word Warning

Hazard Statements	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
	H335	May cause respiratory irritation.

Precautionary Statements	Prevention	P280	Wear protective gloves/eye protection/face protection.
		P261	Avoid breathing dust.
		P271	Use only outdoors or in a well-ventilated area.
	Response	P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P337 + P313	If eye irritation persists: Get medical advice/attention.
		P312	Call a POISON CENTER or doctor/physician if you feel unwell.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing and wash before reuse.
	Storage	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
		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)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.3A	Substances that are irritating to the skin
		6.4A	Substances that are irritating to the eye

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Trisodium phosphate, dodecahydrate	Na ₃ PO ₄ .12H ₂ O	10101-89-0	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. Get medical advice/attention if you feel unwell.
Eye	IF IN EYES: Rinse cautiously with 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. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
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 if experiencing respiratory symptoms or if you feel unwell.
Advice to Doctor	Treat symptomatically.
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.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide, foam or water spray for extinction. Use extinguishing media suitable for the surrounding fire.
Fire and Explosion Hazard	Dust may form an explosive mixture with air. Solutions can react with metals such as aluminium, zinc and galvanized iron to produce highly flammable hydrogen gas, that may explode if ignited. Closed containers may explode in the heat of a fire.
Hazardous Products of Combustion	Fire or heat will produce irritating, toxic, and/or corrosive gases, including Phosphorus and Sodium oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (fire kit).
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	Use clean, non-sparking tools to collect material and place it into suitable containers for later disposal (see SECTION 8).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages should be prevented from entering drains and watercourses.

Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away; Keep upwind.
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. Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Use personal protective clothing as required; In case of inadequate ventilation, wear respiratory protection (see SECTION 8). Keep away from high temperatures, flames and hot surfaces - No smoking.
Storage	Store in a dry and well-ventilated place. Keep container tightly closed. Protect from water/moisture. Keep away from foodstuffs and incompatible materials (strong acids, metals, oxidising agents). Store locked up.
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ (total); TWA = 3 mg/m ³ (respirable).
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 filter type: Particulate (P1). Eye/face protection: Wear eye protection/face protection. Recommended: Safety glasses with side-shields; Chemical goggles; Face-shield as appropriate. Use equipment for eye protection tested and approved under appropriate government standards. Hand protection: Wear protective gloves. Recommended (full/splash contact): Nitrile rubber (Min. layer thickness: 0.11 mm, Break through time: 480 mm). Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash before storage or reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder
Odour	Odourless
Colour	White
pH	11.9 (1 % solution) Strongly alkaline in aqueous solution
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	Decomposes
Melting Point	75 °C
Freezing Point	No Data Available

Solubility	Soluble in water - Insoluble in alcohol (ethanol)
Specific Gravity	1.62
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	75 °C
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	Dust may form an explosive mixture with air.
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; However, closed containers may explode in the heat of a fire.
Reactions That Release Gases or Vapours	Fire or heat will produce irritating, toxic, and/or corrosive gases, including Phosphorus and Sodium oxides.
Release of Invisible Flammable Vapours and Gases	Solutions can react with metals such as aluminium, zinc and galvanized iron to produce highly flammable hydrogen gas, that may explode if ignited.

10. STABILITY AND REACTIVITY

General Information	May react with air to form disodium phosphate and sodium carbonate. Reacts violently with water to liberate heat and form a strong caustic solution, similar to soda lye. May react violently with strong acids to liberate heat and cause splattering. Aqueous solutions react with metals to form flammable hydrogen gas, that may explode if ignited. May react violently with magnesium.
Chemical Stability	Stable at room temperature in closed containers under ordinary conditions of use and storage.
Conditions to Avoid	Keep away from high temperatures and sources of ignition. Avoid dust generation. Protect from exposure to air, water/moisture.
Materials to Avoid	Incompatible/reactive with strong acids, metals (such as aluminium, zinc and galvanized iron, magnesium), oxidising agents, water/moisture.
Hazardous Decomposition Products	Fire or heat will produce irritating, toxic, and/or corrosive gases, including Phosphorus and Sodium oxides. Aqueous solutions react with metals to form flammable hydrogen gas, that may explode if ignited.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Acute toxicity: May be harmful if swallowed. Ingestion may result nausea, vomiting, diarrhoea and gastrointestinal irritation. Skin corrosion/irritation: Cause skin irritation, especially if in contact with moisture or trapped under clothing. The degree of irritation of solutions depends on the concentration of the solution and the length of contact. Symptoms may include redness, pain, itching, inflammation, blistering and dermatitis. Eye damage/irritation: Causes serious eye irritation. Eye contact can result in redness, watering, itching, tearing, stinging, pain, severe deep burns, blurred vision, transient corneal injury and/or blindness. Permanent damage and conjunctival oedema may result from contact with aqueous solution (depending on the amount, concentration, duration of contact and temperature of the solution). Respiratory/skin sensitisation: No information available. Germ cell mutagenicity: No information available. Carcinogenicity: Not listed in the IARC Monographs. 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: 7,400 mg/kg
Other	Acute toxicity (Dermal): - LD50, Rat: >2,000 mg/kg
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC0, Leuciscus idus (Golden orfe): 2,400 mg/L (48 h).
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Avoid release to the environment; Prevent entry into drains and 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. Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Special Precautions for Land Fill	Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Trisodium phosphate, dodecahydrate
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, dodecahydrate
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, dodecahydrate
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, dodecahydrate
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	Trisodium phosphate, dodecahydrate
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, dodecahydrate
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)	Schedule 5

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR003711
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National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined

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

16. OTHER INFORMATION

Related Product Codes	TRSODF4100, TRSODF8100, TRSODF8400, TRSODF8700, TRSODF8701, TRSODF8702, TRSODI0700, TRSODI0800, TRSODI0801, TRSODI0802, TRSODI0805, TRSODI0810, TRSODI0820, TRSODI0900, TRSODI1000, TRSODI1001, TRSODI1002, TRSODI1003, TRSODI1004, TRSODI1005, TRSODI1006, TRSODI1007, TRSODI1008, TRSODI1009, TRSODI1010, TRSODI1011, TRSODI1012, TRSODI1013, TRSODI1014, TRSODI1015, TRSODI1016, TRSODI1017, TRSODI1018, TRSODI1019, TRSODI1020, TRSODI1021, TRSODI1022, TRSODI1023, TRSODI1024, TRSODI1500, TRSODI1800, TRSODI1801, TRSODI1802, TRSODI1803, TRSODI1804, TRSODI1805, TRSODI2000, TRSODI2001, TRSODI2002, TRSODI2003, TRSODI2004, TRSODI2005, TRSODI2006, TRSODI2007, TRSODI2700, TRSODI3000, TRSODI3001, TRSODI3002, TRSODI3003, TRSODI3004, TRSODI3005, TRSODI3006, TRSODI3007, TRSODI3008, TRSODI3010, TRSODI3100, TRSODI3101, TRSODI3502, TRSODI3503, TRSODI4000, TRSODI4200, TRSODI4500, TRSODI7000, TRSODI7800, TRSODI8000, TRSODI9000, TRSODI9100, TRSODI9500, TRSODI9600, TRSODI9700, TRSODI9800, TRSODI9900
Revision	3
Revision Date	13 Feb 2018
Key/Legend	<p>< Less Than > Greater Than 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 IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable 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</p>

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