



Safety Data Sheet
Trisodium phosphate, dodecahydrate
Revision 3, Date 13 Feb 18

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 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

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 water/...

P337 + P313

If eye irritation persists: Get medical advice/attention.

P312

Call a POISON CENTER or doctor if you feel unwell.

P332 + P313

If skin irritation occurs: Get medical advice/attention.

P362

Take off contaminated clothing.

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 comfortable for breathing.

Storage

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

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
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



Advice to Doctor

or doctor/physician if experiencing respiratory symptoms or if you feel unwell.

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
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

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, TRSODI1025, 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, TRSODI3525, TRSODI4000, TRSODI4200, TRSODI4500, TRSODI7000, TRSODI7800, TRSODI8000, TRSODI9000, TRSODI9100, TRSODI9500, TRSODI9600, TRSODI9700, TRSODI9800, TRSODI9900

Revision

3

Revision Date

13 Feb 2018

Key/Legend

< 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 Fahrenheit**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 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

