

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 FamilyNo Data AvailableChemical FormulaNa3PO4.12H2O

Chemical Name Phosphoric acid, trisodium salt, dodecahydrate

Product Description No Data Available

Contact Details of the Supplier of this Safety Data Sheet

OrganisationLocationTelephoneRedox Ltd2 Swettenham Road
Minto NSW 2566
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Wiri Auckland 2104 New Zealand

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Seksyen 33, Shah Alam Premier Industrial Park

40400 Shah Alam Sengalor, Malaysia

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 water.

P337 + P313 If eye irritation persists: Get medical advice.

P312 Call a POISON CENTER or doctor if you feel unwell.

P332 + P313 If skin irritation occurs: Get medical advice.

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.

P362 + P364 Take off contaminated clothing and wash it before reuse.

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)

Storage

Dangerous Goods ClassificationNOT 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	Na3PO4.12H2O	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. If vomiting occurs naturally, rinse

mouth and repeat administration of water. For advice, contact a Poisons Information Centre or a doctor (at once). Never

give anything by mouth to a victim who is unconscious or having convulsions.

IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting Eye

> 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 or a doctor, or for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Skin IF ON SKIN (or hair): Remove contaminated clothing and flush skin and hair with running water for at least 15 minutes. If

skin irritation occurs, get medical advice/attention. Wash contaminated clothing before reuse.

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. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce 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 Provide general supportive measures and treat symptomatically.

Medical Conditions Aggravated by No information available.

Exposure

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 Trisodium phosphate, dodecahydrate is not combustible and does not contribute to the intensity of a fire. **Extinguishing Media** If material is involved in a fire, use methods for the surrounding fire and other materials involved in the fire.

Fire and Explosion Hazard Closed containers exposed to heat may explode. Solutions can react with metals, such as aluminium, zinc and galvanized

iron, to produce highly flammable hydrogen gas, which may explode if ignited.

Hazardous Products of

Combustion

When involved in a fire, this material may decompose and produce irritating vapours, acrid smoke and toxic gases,

including oxides of phosphorous.

Special Fire Fighting Instructions Contain runoff from fire control or dilution water - Runoff may causes 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 With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area. If sweeping

of a contaminated area is necessary use a dust suppressant agent, which does not react with product.

Containment Stop leak if you can do it without risk. Contain the discharged material - Prevent entry into waterways, sewers, basements

or confined areas.

Decontamination Thoroughly wash the area after a spill or leak clean-up.

Environmental Precautionary

Measures

Do not allow the spilled product to enter public drainage system or open water courses.

Evacuation Criteria Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Evacuate the area promptly and

keep upwind of the spilled material.

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 area. Handle in accordance with good industrial hygiene and safety practice. All employees who handle this material should be trained to handle it safely. 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. Avoid freezing. Keep container tightly closed when

not in use. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Keep this material away from food, drink and animal feed. Store locked up. Material should be stored in

secondary containers or in a diked area, as appropriate.

*Use corrosion-resistant structural materials, lighting and ventilation systems in the storage area. Floors should be sealed

to prevent absorption of this material. Have appropriate extinguishing equipment in the storage area.

Container Keep in the original container. Do not store this material in open or unlabelled containers. Inspect all incoming containers

before storage, to ensure containers are properly labelled and not damaged.

*Empty containers may contain residual particulates; therefore, empty containers should be handled with care. Do not cut, grind, weld, or drill near this container. Never store food, feed, or drinking water in containers that held this product.

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/m3 (measured as inhalable dust).

- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m3 (total); TWA = 3 mg/m3 (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: None required where adequate ventilation conditions exist. In case of inadequate ventilation,

wear respiratory protection. Recommended: If airborne concentration is high, use an appropriate respirator or dust mask.

- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Wear safety glasses (or

goggles).

- Hand protection: Wear protective gloves. Recommended: Use impervious gloves. Gloves should be tested to determine

their suitability for prolonged contact with this material.

- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Protective

apron.

Special Hazards Precaustions 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 it before storage or reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance Crystalline powder

Odour Odourless
Colour White

pH 12.0 (1% solution)

Vapour Pressure Zero (@ No Data Available)

Relative Vapour Density

No Data Available

Boiling Point

No Data Available

Melting Point 73 °C

Freezing Point No Data Available

Solubility Soluble in water (28 g/100 mL) 16°C

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 No Data Available **Corrosion Rate Decomposition Temperature** No Data Available Density No Data Available **Specific Heat** No Data Available

Molecular Weight 380.12

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

No information available.

Characteristics

Flame Propagation or Burning

Rate of Solid Materials

No information available.

No information available.

Non-Flammables That Could Contribute Unusual Hazards to a

Contribute Unusual Hazards to a Fire

Properties That May Initiate or Contribute to Fire Intensity

Trisodium phosphate, dodecahydrate is not combustible and does not contribute to the intensity of a fire.

Reactions That Release Gases or Vapours

This material may decompose and produce irritating vapours, acrid smoke and toxic gases, including oxides of phosphorous.

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, which may explode if ignited.

10. STABILITY AND REACTIVITY

General Information Trisodium Phosphate can react with air to form disodium phosphate and sodium carbonate. Trisodium phosphate forms

strong caustic solution, similar to soda lye.

Chemical Stability Stable under conditions of standard temperature and pressure.

Conditions to Avoid Avoid high temperatures, exposure to air and incompatible materials.

Materials to Avoid Trisodium phosphate is incompatible with strong acids and may react violently; in solution reaction may cause splattering.

In solution, Trisodium phosphate will react with metals such as aluminium, zinc and galvanized iron to form flammable hydrogen gas. Trisodium phosphate may react violently with magnesium. Trisodium phosphate can be corrosive to some metals, including aluminium, zinc and tin. Trisodium phosphate is corrosive to grey cast iron at high temperatures and

may be corrosive to steel or brass, if wet.

Hazardous Decomposition

Products

This material may decompose and produce irritating vapours, acrid smoke and toxic gases, including oxides of phosphorous. Solutions can react with metals such as aluminium, zinc and galvanized iron to produce highly flammable

hydrogen gas that may explode if ignited.

Hazardous Polymerisation Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Ingestion of this product in large volumes may irritate or burn the tissues of the mouth, oesophagus and other tissues of the digestive system. Symptoms of exposure can include vomiting, diarrhoea, and nausea. In severe cases, death may result. The estimated fatal dose of sodium phosphates is 50 g.
- Skin corrosion/irritation: Cause skin irritation. This product can cause moderate to severe irritation of the skin, depending on duration and concentration of exposure. Severe exposure or contact in the presence of moisture, or if product is in solution can cause burns. Alkalis penetrate skin slowly. The extent of damage therefore depends on duration of contact. Repeated skin contact to low levels may lead to dermatitis (red, cracked skin).
- Eye damage/irritation: Causes serious eye irritation. Exposure to particulates or solution of this product may cause moderate to severe irritation of the eyes, including burns, depending on duration and concentration of contact. Severe contact with the eyes can cause corneal injury, including clouding and burns, which could lead to blindness. Permanent damage (cloudiness of the cornea) has resulted from contact with Trisodium phosphate, anhydrous solution, in two case reports, one involving hot solution. Concentrations were not reported. In another case report, injury occurred as a result of a splash of aqueous solution, but healed within 48 hours (concentration not reported).
- Respiratory/skin sensitisation: No information available.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: Trisodium phosphate is not considered carcinogenic by ACGIH, IARC, NIOSH, NTP or OSHA.
- Reproductive toxicity: No information available.
- STOT (single exposure): May cause respiratory irritation. Breathing dusts or particulates generated by this product or to mists if in solution, can lead to moderate to severe irritation of the nose, throat or respiratory system, depending on duration and concentration of exposure. Symptoms of minor exposure could include coughing, wheezing, and shortness of breath. Severe inhalation exposure can result in pulmonary edema (a condition of fluid in the lungs), which can be fatal.
- STOT (repeated exposure): Long term skin overexposure to this product may lead to dermatitis (red, itchy skin).
- Aspiration toxicity: No information available.

Acute

Ingestion Acute toxicity (Oral):

- LD50, Rat: 7,400 mg/kg

Other Acute toxicity (Dermal):

- LD50, Rat: >7,940 mg/kg

Carcinogen Category None

12. ECOLOGICAL INFORMATION

 Ecotoxicity
 No information available.

 Persistence/Degradability
 No information available.

 Mobility
 No information available.

Environmental Fate Product can be dangerous to aquatic life in high concentrations as it will increase the pH of the aquatic environment.

Bioaccumulation Potential Product is not expected to accumulate in the food chain.

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 No information available.

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 NumberNo Data AvailableHazchemNo Data AvailablePack GroupNo Data AvailableSpecial ProvisionNo 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 NumberNo Data AvailableHazchemNo Data AvailablePack GroupNo Data AvailableSpecial ProvisionNo 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

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 NumberNo Data AvailableHazchemNo Data AvailablePack GroupNo Data AvailableSpecial ProvisionNo 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)

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 Additives Process Chemicals and Raw Materials Subsidiary Hazard Group Standard 2020 HSR002503

*HSR003711 (Revoked)

National/Regional Inventories

Australia (AIIC) 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, TRSODI1050,

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, TRSODI3101, TRSODI3101, TRSODI3115, TRSODI3502, TRSODI3503, TRSODI3525, TRSODI4000, TRSODI4200, TRSODI4500, TRSODI7000, TRSODI7800, TRSODI8000, TRSODI9000, TRSODI9100, TRSODI9500,

TRSODI9600, TRSODI9700, TRSODI9800, TRSODI9900

Revision 4

Revision Date 13 Apr 2021

Key/Legend < Less Than

< Less Than
> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square CentimetresCO2 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/I 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

Ib 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.

Itr 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

mmH20 Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

 $\mbox{\bf NIOSH}$ National Institute for Occupational Safety and Health

NOHSC National Occupational Heath 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