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| Infosafe No™ | 1CH78 | Issue Date : February 2018 | RE-ISSUED by CHEMSUPP |
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Product Name : **TRI- SODIUM PHOSPHATE dodecahydrate**

Classified as hazardous

1. Identification

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| GHS Product Identifier | TRI- SODIUM PHOSPHATE dodecahydrate | |
| Company Name | CHEM-SUPPLY PTY LTD (ABN 19 008 264 211) | |
| Address | 38 - 50 Bedford Street GILLMAN SA 5013 Australia | |
| Telephone/Fax Number | Tel: (08) 8440-2000 Fax: (08) 8440-2001 | |
| Recommended use of the chemical and restrictions on use | Water softeners, boiler-water compounds, metal cleaning, textiles, manufacture of paper, tanning, sugar purification, photographic developers, ingredient of soap powders and heavy-duty household, industrial and institutional detergents, cleaning agents and scouring powders; laundering, stain remover and degreaser, commonly used to prepare surfaces for painting, paint removers, dietary supplement, food additive, buffer, emulsifier, elastomers, removal of insecticide sprays, inhibitor of fruit mold, thickening agent, sequestrant (metal-chelating agent), enema (laxative) and laboratory reagent. | |
| Other Names | Name | Product Code |
| | Tri-SODIUM PHOSPHATE dodecahydrate LR | SL012 |
| | Tri-sodium phosphate dodecahydrate | |
| | Tribasic sodium phosphate | |
| | TSP | |
| | Tri-SODIUM PHOSPHATE dodecahydrate TG | ST012 |
| | Sodium phosphate, tribasic | |
| | Tri-SODIUM PHOSPHATE dodecahydrate AR | SA012 |
| Other Information | EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday. | |

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

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| GHS classification of the substance/mixture | Eye Damage/Irritation: Category 2 Skin Corrosion/Irritation: Category 2 STOT Single Exposure Category 3 |
| Signal Word (s) | WARNING |
| Hazard Statement (s) | H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. |
| Pictogram (s) | Exclamation mark |



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| Precautionary statement – Prevention | P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. |
| Precautionary statement – Response | P302+P352 IF ON SKIN: Wash with plenty of soap and water. P332+P313 If skin irritation occurs: Get medical advice/attention. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. |



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| Precautionary statement – 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. |
| Precautionary statement – Disposal | P337+P313 If eye irritation persists: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/container to an approved waste disposal plant. |

3. Composition/information on ingredients

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|--------------------------|--|------------|-------------------|----------------------|--------------------|
| Chemical | Solid | | | | |
| Characterization | | | | | |
| Ingredients | <u>Name</u> | <u>CAS</u> | <u>Proportion</u> | <u>Hazard Symbol</u> | <u>Risk Phrase</u> |
| | Tri-sodium phosphate dodecahydrate | 10101-89-0 | 100 % | | |
| Other Information | Commercial dodecahydrate often contains excess sodium hydroxide (4(Na ₃ PO ₄ .12H ₂ O).NaOH). | | | | |

4. First-aid measures

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| Inhalation | If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear. |
| Ingestion | Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek medical advice if symptoms persist. |
| Skin | Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek immediate medical advice /attention depending on the severity. |
| Eye contact | If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. If rapid recovery does not occur, obtain medical attention |
| First Aid Facilities | Maintain eyewash fountain and drench facilities in work area. |
| Advice to Doctor | Treat symptomatically based on judgement of doctor and individual reactions of the patient. |
| Protection for First Aiders | No action shall be taken involving any personal risk or without suitable training. |

5. Fire-fighting measures

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| Hazards from Combustion Products | Highly toxic and corrosive/irritating fumes (or gases) of phosphorus oxides (PO _x) and sodium oxides. |
| Specific Methods | Use extinguishing media most appropriate for the surrounding fire. Small fire: Use dry chemical, CO ₂ , water spray or foam. Large fire: Use water spray, fog or foam. |
| Specific hazards arising from the chemical | Material does not burn. Runoff may pollute waterways. Fire or heat may melt product and produce irritating, poisonous and/or corrosive fumes. |
| Decomposition Temp. | 75 °C. |
| Precautions in connection with Fire | Wear SCBA and structural firefighter's uniform. |
| Other Information | The solution in water is a strong base, it reacts violently with acid, attacks many metals to form highly flammable hydrogen gas and is corrosive. |

6. Accidental release measures

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| Personal Precautions | Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms. |
| Personal Protection | Wear protective clothing specified for normal operations (see Section 8) |
| Clean-up Methods - Small Spillages | Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations. |



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7. Handling and storage

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| Precautions for Safe Handling | Avoid ingestion or inhalation of dust. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Minimize dust/mist generation and accumulation. Keep container tightly closed. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wash thoroughly after handling. |
| Conditions for safe storage, including any incompatibilities | Store in tightly closed containers, in a cool, dry, well-ventilated area away from incompatible substances. Store away from water/moisture and acids. Protect against physical damage, direct sunlight and humidity/water/moisture. |
| Corrosiveness | Corrosivity to Metals: Corrosive to aluminium, zinc and tin. Not corrosive to cast iron, steel, stainless steel, nickel and its alloys at room temperature. Corrosive to gray cast iron at high temperatures. May be corrosive to mild steel or brass, if wet. |
| Storage Temperatures | Store at room temperature (15 to 25 °C recommended). |
| Unsuitable Materials | Aluminium, zinc, tin, gray cast iron, mild steel or brass. |

8. Exposure controls/personal protection

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| Other Exposure Information | A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by Safe Work Australia for this product. There is a blanket limit of 10 mg/m ³ for dusts when limits have not otherwise been established. |
| Appropriate engineering controls | In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. |
| Respiratory Protection | Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. |
| Eye Protection | The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336. |
| Hand Protection | Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: NR latex, vinyl, nitrile, neoprene gloves. |
| Personal Protective Equipment | Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken. |
| Footwear | Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use. |
| Body Protection | Clean clothing or protective clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals. |
| Hygiene Measures | Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. |

9. Physical and chemical properties

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| Form | Solid |
| Appearance | Colourless to white crystalline solid, powder, or trigonal crystals. |
| Odour | Odourless. |
| Decomposition Temperature | 75 °C. |
| Melting Point | When heated rapidly, 75 °C (decomposes). |
| Boiling Point | Decomposes. Loses water of crystallisation @ 100 °C. |
| Solubility in Water | Soluble (1.5 g/100 ml at 0 °C, 25.8 g/100 g at 20 °C). |
| Solubility in Organic Solvents | Insoluble in alcohol (ethanol) and carbon disulfide. |
| Specific Gravity | 1.62 @ 20 °C |
| pH | 11.5 (0.1% solution); 11.7 (0.5% solution); 11.9 (1% solution). The aqueous solution is strongly alkaline. |



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| Vapour Pressure | Basicity (pKb): 2.23. Does not form a vapour. |
| Volatile Component | 0 %vol @ 21 °C |
| Flammability | Non combustible material. |
| Explosion Properties | Dust may form 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. |
| Molecular Weight | 380.12 |
| Other Information | Index of Refraction: 1.446; 1.452. Does not lose the last molecule of water even on moderate ignition. |

10. Stability and reactivity

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| Chemical Stability | Stable at room temperature in closed containers under ordinary conditions of use and storage. May react with air to form disodium phosphate and sodium carbonate. |
| Conditions to Avoid | High temperatures, heat, flames, ignition sources dust generation and incompatible materials. |
| Incompatible Materials | Strong acids, metals such as aluminium, zinc and galvanized iron, magnesium, water/moisture. |
| Hazardous Decomposition Products | Highly toxic and corrosive/irritating fumes (or gases) of phosphorus oxides (POx) and sodium oxides. Solutions can react with metals to form highly flammable hydrogen gas. |
| Possibility of hazardous reactions | 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 such as aluminium, zinc and galvanized iron to form flammable hydrogen gas, that may explode if ignited. May react violently with magnesium. |
| Hazardous Polymerization | Will not occur. |

11. Toxicological Information

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| Acute Toxicity - Oral | LD50 (rat): 7400 mg/kg; |
| Ingestion | Harmful if swallowed. The toxicity of trisodium phosphate has not been investigated but it may be expected to be related only to its alkalinity. Its alkalinity is close to that of sodium carbonate. The estimated fatal dose of sodium phosphates is 50 g. Causes digestive tract irritation. Symptoms may include mild burning sensation of mouth, throat, and stomach, nausea, vomiting, abdominal pain and diarrhoea. Ingestion of a large amount would likely cause severe pain, mucosal irritations, caustic burns to the mouth, oesophagus and the digestive tract, nausea, vomiting, gastric pain and diarrhoea. Oesophageal stricture may be delayed, making swallowing difficult. May be capable of seriously reducing the serum level of ionic calcium, resulting in shock or collapse, precipitation of calcium phosphate salts in soft tissues throughout the body, fall of blood pressure, slow pulse, cyanosis, coma and sometimes tetany. In severe cases, death could result. Ingestion is not a typical route of occupational exposure. |
| Inhalation | May be harmful if inhaled. Inhalation of product dusts/mists will cause irritation of the nose, throat and gastrointestinal or respiratory tract. Symptoms may include burning sensation, sneezing, sore throat, coughing, shortness of breath, wheezing, laryngitis, headache, nausea, and vomiting. High concentrations of dust or mists from concentration solutions are probably severely irritating or corrosive, based on pH. Severe over-exposure can produce lung damage, choking, spasm, inflammation and oedema of the larynx and bronchi, asthmatic bronchitis, chemical pneumonitis, pulmonary oedema, unconsciousness or death. |
| Skin | Dusts can probably cause moderate to severe 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. Water solutions with concentrations of 0.1% (pH 11.5) or greater may be corrosive or severely irritating. Symptoms may include redness, pain, itching, inflammation, blistering and dermatitis. |
| Eye | Dusts and concentrated solutions can be corrosive. The factors which determine the extent and reversibility of the injury include the concentration of solution or the amount of trisodium phosphate which comes into contact with the eye, the duration of contact and the heat of the solution. Eye contact can result in redness, watering, itching, tearing, stinging, pain, severe deep burns, blurred vision, transient corneal injury and/or blindness. Permanent damage (cloudiness of the cornea) and conjunctival oedema may result from contact with aqueous solution. |
| Carcinogenicity | Not listed in the IARC Monographs. |



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Chronic Effects Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Chronic inhalation may cause effects similar to those of acute inhalation. Effects may be delayed. Chronic exposures can result in inflammatory or ulcerative changes in the mouth, possible gastrointestinal disorders, irritation and haemorrhages in the stomach as well as liver and kidney damage. Bone structure may be attacked, especially the jaw and teeth. Repeated or prolonged skin contact with the solid or solutions can produce local skin destruction, drying, cracking and inflammation of the skin (dermatitis). Repeated exposure of the eyes to a low level of dust can produce eye irritation. May cause permanent tissue damage to the skin and eyes.

Skin corrosion/irritation Trisodium phosphate is expected to be corrosive to skin, based on pH.

12. Ecological information

Ecological Information No ecological problems are to be expected when the product is handled and used with due care and attention.

Ecotoxicity Depending on the concentration, phosphates may contribute to the eutrophication of water supplies.

Acute Toxicity - Fish *Leuciscus idus* LC0: ~ 2400 mg/l /48 h (anhydrous).

13. Disposal considerations**14. Transport information**

Transport Information Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. Regulatory information

Regulatory Information Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Poisons Schedule S5

Hazard Category Corrosive

16. Other Information

Literature References 'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Substances Information System, 2005'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.

Contact Person/Point Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**

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Empirical Formula & Structural Formula Na₃PO₄.12H₂O.

...End Of MSDS...



chem-supply

Safety Data Sheet

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