Infosafe No™	1CH6U	Issue Date : February 2018	RE-ISSUED by CHEMSUPP

Product Name : **SODIUM TETRABORATE**

Classified as hazardous

1. Identification

GHS Product Identifier SODIUM TETRABORATE

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 Heat resistant glass, porcelain enamel, ceramics, detergents, herbicides, insecticides, fertilisers, rust inhibitors, pharmaceuticals, antiseptics, leather, photography, bleaches, paint, boron compounds, flux for smelting, flame-retardant, fungicide for wood, soldering flux, cleaning preparations, and laboratory reagent.

Other Names

Name	Product Code
SODIUM TETRABORATE Decahydrate Granular AR	SA037
SODIUM TETRABORATE Decahydrate Powder LR	SL038
SODIUM TETRABORATE Decahydrate Granular LR	SL037
Sodium borate	
Sodium pyroborate	
Borax	
Pyrobor	

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

GHS classification of the substance/mixture Toxic to Reproduction: Category 1B

Signal Word (s) WARNING

Hazard Statement (s) H361 Suspected of damaging fertility or the unborn child.

Pictogram (s) Health hazard

Precautionary statement – Prevention
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.

Precautionary statement – Response P308+P313 IF exposed or concerned: Get medical advice/attention.

Precautionary statement – Storage P405 Store locked up.

Precautionary statement – Disposal P501 Dispose of contents/container to an approved waste disposal plant.

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3. Composition/information on ingredients

Chemical Characterization Solid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Sodium Tetraborate Decahydrate	1303-96-4	100 %		

4. First-aid measures

Inhalation Remove from exposure, rest and keep warm. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention in severe cases, if symptoms develop, or if breathing is difficult.

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.

Skin Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical attention in severe cases, or if irritation develops.

Eye contact If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek medical attention if irritation, pain, swelling, lacrimation, or photophobia persists.

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.

Other Information For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products Not combustible. Toxic and/or irritating gases, vapours and fumes of sodium oxide and borane/boron oxides.

Specific Methods Use extinguishing media most appropriate for the surrounding fire.

Decomposition Temp. Loses water of crystallization, first forming the pentahydrate above about 62 °C and then anhydrous sodium tetraborate at about 320 °C. Anhydrous sodium tetraborate decomposes at 1575 °C.

Other Information Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

Personal Precautions Avoid raising a dust cloud. Avoid inhalation and ingestion. Avoid contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel.

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.

7. Handling and storage

Precautions for Safe Handling Avoid ingestion and inhalation of dust. Avoid contact with eyes, skin, and clothing. If ingested, seek medical advice immediately and show the container or the label. Minimize dust generation and accumulation. Keep containers closed when not in use. Ensure good ventilation at the workplace. Use with adequate ventilation. Wear suitable protective clothing. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Practice good personal hygiene, that is, always wash hands before eating, drinking smoking or using the toilet facilities. When using do not eat, drink or smoke. Keep away from incompatibles such as oxidizing agents.

Conditions for safe storage, including any incompatabilities Store in tightly closed containers, in order to minimise contamination, in a cool, dry, well-ventilated area away from incompatible substances.

Storage Temperatures Store at room temperature (15 to 25 °C recommended).

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL	TWA

Classified as hazardous

	mg/m3	ppm	mg/m3	ppm	Footnote
Sodium Tetraborate Decahydrate			5		Borates, tetra, sodium salts (decahydrate)

Other Exposure Information A time weighted average (TWA) has been established for Borates, tetra, sodium salts (decahydrate) (Safe Work Australia) of 5 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

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. Good: Neoprene or nitrile rubber 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

Form Solid

Appearance Colourless to white, grey, bluish or greenish white streak, vitreous or dull lustre crystals, granules or crystalline powder; efflorescent in dry air, the crystals often being coated with white powder.

Odour Odourless.

Decomposition Temperature Loses water of crystallization, first forming the pentahydrate above about 62 °C and then anhydrous sodium tetraborate at about 320 °C. Anhydrous sodium tetraborate decomposes at 1575 °C.

Melting Point 62 °C (heated in closed space); 75 °C (decomposes).

Boiling Point Decomposes. Loses water at 320 °C; 1575 ºC (anhydrous).

Solubility in Water Soluble (38.1 g/l at 20 °C).

Solubility in Organic Solvents Soluble in glycerol; slightly soluble in acetone; insoluble in alcohol (methanol, ethanol) and acid.

Specific Gravity 1.73.

pH 9.5 (5% aq soln). Aqueous solution is alkaline to litmus and phenolphthalein.

Vapour Pressure 0.213 hPa (20 ºC).

Coefficient Water/Oil Distr. log Pow: -1.53

Volatile Component No specific data. Expected to be low at 100 °C.

Flammability Non combustible material. Fire retardent. It will not participate in a fire.

Explosion Properties Not considered to be an explosion hazard. A mixture of hydrated borax and zirconium explodes when heated.

Molecular Weight 381.37.

Other Information Index of refraction: 1.447 (alpha); 1.469 (beta); 1.472 (gamma).

Taste: Alkaline.
Moh's hardness: 2.3.
Bulk density: 810 kg/m³.

10. Stability and reactivity

Chemical Stability Stable at room temperature in closed containers under ordinary conditions of use and storage. When heated above about 62 °C, borax loses water of crystallization, first forming the pentahydrate and eventually anhydrous sodium tetraborate.

Conditions to Avoid Strong heating, dust generation and incompatible materials.

Incompatible Materials Strong oxidizing agents, strong reducing agents, such as metal hydrides or alkali metals, acids, mineral acids, alkalis, acid anhydrides, alkaloids, alkaloidal salts, metals, metals in powder form, zirconium, mercuric chloride, zinc sulfate, and other metallic salts, and gums.

Hazardous Decomposition Products Toxic and/or irritating gases, vapours and fumes of sodium oxide and borane/boron oxides.

Possibility of hazardous reactions Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard. Produces a mild exothermic reaction in contact with water. Reacts violently with elemental zirconium - explodes when heated. Reactive with oxidizing agents, metals, and acids.

Hazardous Polymerization Will not occur.

11. Toxicological Information

Acute Toxicity - Oral LD50 (rat): 4500 - 5000 mg/kg.

Ingestion Harmful if swallowed. May cause irritation of the digestive tract, gastric upset, headache, nausea, vomiting, diarrhoea, abdominal pain, muscular spasms, dullness, weakness, fatigue, lethargy, cardiovascular disorders, circulatory depression, central nervous system depression, shock, convulsions, kidney and liver damage, coma, and death. The effects may be delayed. Rapidly absorbed via the gastrointestinal tract and mucous membranes. Ingestion of 5-10 grams has produced severe vomiting, diarrhoea, shock and death.

Inhalation Inhalation of dust may cause mild irritation to nose, throat and respiratory system. Symptoms may include minor discomfort to throat and lungs and/or coughing, shortness of breath, sore throat and nose bleeds.

Skin May cause mild irritation in contact with skin. Symptoms include mild transient discomfort, redness, itching, pain and dry skin. Unlikely to cause any lasting effects. Borax is poorly absorbed through intact skin. May be harmful if absorbed through the skin, possibly producing systemic effects.

Eye May cause mild eye irritation. Symptoms may include redness, tearing, mild transient discomfort, pain, stinging and blurred vision. Unlikely to cause any lasting effects.

Carcinogenicity Not listed in the IARC Monographs.

Reproductive Toxicity Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the foetus, including foetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed.

Chronic Effects Prolonged or repeated ingestion or skin absorption may cause anorexia, weight loss, vomiting, mild diarrhoea, skin rash, convulsions, and anaemia. Repeated or prolonged contact with skin may cause dermatitis. Boron effects the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhoea, followed by profound shock and coma. The temperature may become subnormal and a scarlatina form rash may cover the entire body.

Serious eye damage/irritation Draize test in rabbits produced mild eye irritation effects. Fifty years of occupational exposure history indicates no adverse effects on human eye from exposure to Borax decahydrate.

12. Ecological information

Ecotoxicity Herbicidal effect. Trace element. Fertilizing effect possible. No ecological problems are to be expected when the product is handled and used with due care and attention.

Persistence and degradability Methods for the determination of biodegradability are not applicable to inorganic substances.

Bioaccumulative Potential Concentration in organisms is not to be expected.

Biological Properties Herbicidal effect.

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Acute Toxicity - Daphnia	Daphnia magna EC50: 1085-1402 mg/l /48 h.
Acute Toxicity - Algae	Desmodesmus subspicatus IC50: 158 mg/l /96 h (anhydrous substance).

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

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

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 fot 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: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	$Na_2B_4O_7.10H_2O$.

...End Of MSDS...