SAFETY DATA SHEET

LogiBor 88

SECTION 01 - IDENTIFICATION

Product identifier	LogiBor 88
Other means of identification	Sodium Tetraborate, Anhydrous Borax, Sodium Pyroborate, Sodium Biborate
Recommended use of chemical	Soldering, manufacture of glazes and enamels, tanning, fluxes
Supplier name	Ixom Operations Pty Limited trading as LogiChem
Supplier address	Lot 33 Bulong Road Parkeston-Kalgoorlie, Australia PO Box 878 Kalgoorlie WA 6433 Australia
Supplier phone	1800 033 111 / Int. +61 (0) 3 9663 2130
24 Hour emergency phone	1800 033 111

SECTION 02 – HAZARD(S) IDENTIFICATION

Classification	Toxic To Reproduction - Category 1B Serious Eye Damage/Irritation - Category 2A
Signal word	Danger
Hazard statements	H360FD - May damage fertility. May damage the unborn child. H319 Causes serious eye irritation.
Precautionary statements	***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. P264 - Wash skin thoroughly after handling. P280 - Wear eye protection/face protection. P281 - Use personal protective equipment as required. ***Response*** P308 / P313 - IF exposed or concerned: Get medical advice/ attention. P337 / P313 - If eye irritation persists: Get medical advice/attention. P305 / P351 / P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. ***Storage*** P405 - Store locked up. ***Disposal*** P501 - Dispose of contents/container in accordance with all local, state and federal regulations

SECTION 03 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Components	Cas No:	Proportion %
Sodium Tetraborate	1330-43-4	>99%

SECTION 04 – FIRST AID MEASURES

Description of necessary first aid measures	***Eye*** – Hold affected eye open under running water for 15 minutes. Seek medical advice. ***Ingestion*** - Give water to drink providing person is conscious. DO NOT induce vomiting. Seek medical attention. ***Inhalation*** – Remove patient to fresh air and keep warm and rested. ***Skin*** - Remove contaminated clothing and wash affected area well with running water. If irritation persists see a doctor.
Medical attention / special treatment	Observation only for adult ingestion of less than 5 grams. For ingestion of more than

	5 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Haemodialysis should be reserved for massive acute ingestion or patients with renal failure.
Symptoms caused by exposure	NOTE: Sodium tetraborate and its hydrates are chemically and toxicologically related to boric acid. The majority of the borate chronic toxicity studies were conducted using boric acid. Sodium tetraborate is converted to boric acid in biological systems. The boric acid data discussed in this section can be converted to sodium tetraborate pentahydrate equivalent by dividing by a factor of 0.849. Other factors apply to different levels of hydration. A human study of occupationally exposed borate workers showed no adverse reproductive effects. Animal studies indicate that boric acid reduces or inhibits sperm production, causes testicular atrophy and when given to pregnant animals during gestation, may cause developmental changes. These feed studies were conducted under chronic exposure conditions leading to doses many times in excess of those that could occur through inhalation of dust in the occupational setting. Dietary levels of boric acid of 8,700ppm (0.87%) in chronic feeding studies in rats and dogs produced testicular changes (Weir, Fisher, 1972). In chronic feeding studies in mice on diets containing 5,000ppm (0.5%) Boric acid, testicular atrophy was present while mice fed 2,500ppm showed no significant testicular atrophy. In another chronic boric acid study, degeneration of seminiferous tubules was present together with a reduction in germ cells in mice fed 4,500ppm boric acid. In a reproduction study on rats, 2,000ppm of dietary boric acid had no adverse effect on lactation, litter size, weight or appearance (Weir, Fisher, 1972). In a continuous breeding study in mice there was a reduction in fertility rates in males receiving 4,500ppm boric acid, but not in females receiving 4,500ppm boric acid (Fail et al, 1992). The product is not listed as carcinogenic in Worksafe's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995) and studies indicate that the product is not carcinogenic or mutagenic.

SECTION 05 – FIRE FIGHTING MEASURES

Suitable extinguishing media	In case of fire, use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards arising from the chemical	Non-combustible and not explosive. Presents no unusual hazard if involved in a fire. Sodium Tetraborate Anhydrous is an inherent flame retardant. Reacts with strong reducing agents such as metal hydrides or alkali metals to generate hydrogen gas which could create an explosion hazard.
Special protective equipment & precautions for fire fighters	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment. Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).

SECTION 06 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Clean-up personnel should wear full protective equipment. Evacuate all unnecessary personnel.
Environmental precautions	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Sodium Tetraborate Anhydrous is a water-soluble white powder that, in large quantities, may damage plants by root absorption.
Methods and materials for containment and cleaning up.	Shut off spill if possible. Collect the spilled material by sweeping up (avoid generating dust) and place in clean labelled containers for disposal or salvage.

SECTION 07 – HANDLING AND STORAGE

Precautions for safe handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust/fumes. To maintain package integrity and to minimise caking of the product, bags should be handled on a 'first -in-first-out' basis'. Good housekeeping to be be maintained to minimise dust accumulation and generation. Sodium Tetraborate Anhydrous may cake in moist conditions. Wash hands thoroughly with soap and water after handling and before eating, drinking or smoking.
Conditions for Safe Storage (Including Any Incompatibles)	Store in cool, dry, well-ventilated area. Reseal container after use. Store away from foodstuffs. Not regulated for transport.

SECTION 08 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters – exposure standards, biological monitoring	Do not expose pregnant women to this product. The following exposure standard has been established by Safe Work Australia; Disodium tetraborate, anhydrous CAS: 1330-43-4 TWA = 1mg/m3
Appropriate engineering controls	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. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal protective equipment (PPE)	***Clothing*** – Long-sleeved protective clothing (AS3765/2210). ***Eyes*** – Use goggles or vented safety glasses in excessively dusty conditions (AS1336/1337). ***Footwear*** – safety footwear (AS3765/2210). ***Gloves*** – Gloves (rubber, nitrile or butyl) may be warranted if environment is excessively dusty (AS2161) ***Other*** **-** Use appropriate certified respirators, masks if airborne concentrations are expected to exceed exposure limits (AS1715/1716).

SECTION 09 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White, glassy crystalline solid
Odour	Odourless
Odour threshold	Not available
pH	9.2
Melting point/freezing point	742 °C
Specific gravity (water = 1)	2.37
Boiling point and boiling range	Not available
Flash point	Does not burn
Evaporation rate	Not available
Flammability	Not available
Upper/lower flammability or explosive limits	Not available
Vapour pressure (hPa @ 20°C)	2.5%
Vapour density	Not available
Relative density	Not available
Solubility(ies) (water)	2 at 25 °C
Partition coefficient	og Pow: -1.529 at 22 Deg C
Auto-ignition temperature	Not available
Decomposition temperature	Not available

Viscosity	Not available
Specific heat value	Not available
Particle size	Not available
Volatile organic compounds content	Not available
% volatile	Expected to be low
Saturated vapour concentration	Not available
Release of invisible flammable vapours and gases	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity	Hazardous Polymerisation will not occur.
Chemical stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to avoid	Avoid excessive heat, generating dust, direct sunlight, moisture and high temperatures.
Incompatible materials	No particular incompatibilities. Keep away from water.
Hazardous decomposition products	Decomposes on heating emitting toxic fumes, including those of sodium compounds. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

SECTION 11– TOXICOLOGICAL INFORMATION

Information on routes of exposure	***Eyes*** – Severe irritant to the eye. ***Ingestion*** - Ingestion of Borax is considered toxic. Symptoms include depressed circulation, vomiting, diarrhoea followed by collapse into coma followed by death. ***Inhalation*** – Dust is irritating to the upper respiratory tract and may have harmful effects. ***Skin*** - Mildly irritating to the skin. May cause redness and itchiness after prolonged contact.
Symptoms related to exposure	Not available
Numerical measures of toxicity	Sodium tetraborate: An adult lethal dose is greater than 15 to 20g (5-10g for children). Oral LD50 Rat: 4500-6000mg/Kg Terrestrial Animals: Borax is practically non-toxic to birds and mammals. It is relatively non-toxic to bees. Relatively high concentrations of boron compounds are toxic to insects, and borax is used to for insect control in some cases. Ingestion of large does may cause gastrointestinal irritation, kidney injury and may result in death from CNS depression.
Immediate, delayed and chronic health effects from exposure	Boron containing compound have been found to cause genetic abnormality in offspring during animal testing.
Exposure levels	Not available
Interactive effects	Not available
Data limitations	Not available

SECTION 12– ECOLOGICAL INFORMATION

Ecotoxicity	This product is not likely to adversely affect the environment. Salts, acids and bases are typically diluted and neutralised when released into the environment in small quantities. This product is unlikely to accumulate in body tissues. This product is likely to be mobile in soils. Soil Microorganisms: At high levels, borax could be toxic to many soil microorganisms. Plants: Borax and other boron compounds at high levels may kill plants. Borax may be used as a nonselective herbicide. However, boron is an essential nutrient for plants, and boron compounds (including borax) occur widely in nature. Boron is taken up from soil by plants in proportion to the amount of boron in the soil. Borax is also used in fertiliser formulations to supply boron, which is an essential plant nutrient. Aquatic Animals: Borax is practically non-toxic to fish, and practically non- toxic to aquatic invertebrate animals. It does not build up (bioaccumulate) in fish.
Persistence and degradability	Not available

Bioaccumulative potential	This product does not build up (bioaccumulate) in fish.
Mobility in soil	This product is likely to be mobile in soils.
Other adverse effects	Not available

SECTION 13 – DISPOSAL CONSIDERATIONS

Safe handling and disposal methods	Not available
Disposal of any contaminated packaging	All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Environmental regulations	Dispose of in accordance with all local, state and federal regulations.

SECTION 14 – TRANSPORT INFORMATION

UN number	NA
Proper shipping name	NA
Transport hazard class(es)	NA
Subsidiary risk	NA
Packaging group	NA
Environmental hazards	Not available
Special precautions during transport	Not available
Hazchem code	NA

SECTION 15 – REGULATORY INFORMATION

AICS name	Not available
Poisons Schedule number	5

SECTION 16 – OTHER INFORMATION

SDS creations date	14 May 2007
Most recent revision date	01 February 2018
Revision number	011 THIS ISSUE NUMBER REPLACES ALL ISSUES
Reason for revision	Annual Update
Contact person	Ixom 1800 033 111

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

END OF SDS