



## Section 1 - Identification of the Material and Supplier

**Chemical nature:** Borax Decahydrate  
**Trade Name:** **BORON SOLUBLE**  
**Other Names:** Borax, Disodium Tetraborate, Sodium Tetraborate, Decahydrate  
**Product Use:** Soil amendment  
**Supplier:** Barmac, a Division of Amgrow Pty Ltd  
3/29 Birnie Ave, Lidcombe NSW 2141  
Phone: 02 9395 1200 (office hours)  
Fax: 02 9395 1241 www.amgrow.com.au  
**Creation Date:** August 2017 and is valid for 5 years from this date

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

**CLASSIFIED AS HAZARDOUS ACCORDING TO THE CRITERIA OF SWA.**

**NOT A DANGEROUS GOOD ACCORDING TO AUSTRALIAN DANGEROUS GOODS (ADG) CODE, IATA OR IMDG/IMSBC CRITERIA.**

**Risk Phrases:** R60, R61 May impair fertility, May cause harm to the unborn child

**Safety Phrases:** S53, S45, Avoid exposure- obtain special instructions before use, In cas of accident or if you feel unwell, seek medical advice immediately

**SUSMP Classification:** S5

**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code.

**UN Number:** None allocated



### GHS Signal word: DANGER.

Toxic to Reproduction Category 1B

### HAZARD STATEMENT:

H360FD: May damage fertility. May damage the unborn child

### PREVENTION

P201: Obtain special instructions before use

P202: Do not handle until all safety precautions have been read and understood

P280: Wear protective gloves, protective clothing and eye or face protection.

### RESPONSE

P308+313: If exposed or concerned get medical advice/attention

### STORAGE

P405: Store locked up

### DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

## Emergency Overview

**Physical Description & colour:** White crystalline solid

**Odour:** No appreciable odour

**Major Health Hazards:** Product is irritating to eyes, respiratory system

## Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc. %
Borax Decahydrate	1303-96-4	100

*This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.*



## Section 4 - First Aid Measures

**General Information:** You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

**Inhalation:** Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.

**Skin Contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

**Ingestion:** Immediately rinse mouth with water. Give a glass of water to drink provided person is conscious. Do not induce vomiting. Seek medical attention.

## Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** Not flammable. Do not mix with potassium

**Fire decomposition products:** Non-combustible solid. Borax Decahydrate is not flammable, combustible or explosive. The product is itself a flame retardant.

Hazardous decomposition products have not been reported.

**Extinguishing Media:** Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** Not relevant

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Auto ignition temperature:** No data.

**Flammability Class:** Not flammable

## Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. S

## Section 8 - Exposure Controls and Personal Protection

Exposure Limits	TWA (mg/m3)	STEL (mg/m3)	ADI (mg/Kg/day)	NOEL (mg/Kg/day)
Borax	5	not set	not set	not set

*Exposure limits have not been set for any ingredients in product. The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. There is a blanket limit of 10mg/m<sup>3</sup> for dusts or mists when limits have not otherwise been established. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.*



ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, 31<sup>st</sup> March 2012

### Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of an exhaust fan is suggested.

**Eye Protection:** Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

**Skin Protection:** Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC.

**Respirator:** Wear an approved air purifying respirator where engineering controls are inadequate

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being handled commercially.

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	White crystalline solid
<b>Odour:</b>	No appreciable odour.
<b>Boiling Point:</b>	Not relevant
<b>Melting Point:</b>	62 <sup>o</sup> C
<b>Volatiles:</b>	No data.
<b>Vapour Pressure:</b>	Negligible
<b>Vapour Density:</b>	No data.
<b>Density:</b>	1.73 g/cm
<b>Water Solubility:</b>	Completely Soluble
<b>pH:</b>	9.2
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water distribution:</b>	No data
<b>Auto ignition temp:</b>	No data.

## Section 10 - Stability and Reactivity

**Chemical Stability:** Product is stable under normal conditions of use, storage and temperature. Borax decahydrate is a stable product, but when heated it loses water, eventually forming anhydrous borax (Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>).

**Conditions to Avoid:** Avoid excessive heat, direct sunlight, static discharges, generating dust, moisture and high temperatures.

**Incompatibilities:** Incompatible with strong reducing agents such as metal hydrides, acetic anhydride, alkali metals, and sources of ignition, strong oxidising agents.

**Hazardous Decomposition Products:** Hazardous decomposition products have not been reported. Reaction with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals will generate hydrogen gas which could create an explosive hazard.

**Hazardous Polymerisation:** Hazardous polymerization has not been reported.

## Section 11 - Toxicological Information

### Potential Health Effects

**Animal Toxicity:** LD50 Oral - Rat - 4,500 - 5,000 mg/kg, LD50 Dermal - Rabbit - 10,000 mg/kg

Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. The doses administered were many times in excess of those to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility

**Eye Contact:** Borax Decahydrate is a serious eye irritant.



**Ingestion:** Products containing borax Decahydrate are not intended for ingestion. Borax Decahydrate has low acute toxicity. Small amounts (e.g. a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

**Inhalation:** Occasional mild irritation effects to nose and throat may occur from inhalation of borax Decahydrate dusts at levels higher than 10 mg/m<sup>3</sup>.

Inhalation is the most significant route of exposure in occupational and other settings.

**Skin Contact:** Borax Decahydrate does not cause irritation to intact skin. Dermal exposure is not usually a concern because borax Decahydrate is poorly absorbed through intact skin. Borax Decahydrate is not a skin sensitiser.

**Reproduction:** Presumed human reproductive toxicant. May damage fertility or the unborn child.

**Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

## Section 12 - Ecological Information

**Ecotoxicity :** Toxicity to fish LC50 - Carassius auratus (goldfish) - 178 mg/l - 72 h

Toxicity to daphnia and other aquatic invertebrates : EC50 - Daphnia magna (Water flea) - 1,085 - 1,402 mg/l - 48 h

Toxicity to algae IC50 - Desmodesmus subspicatus (green algae) - 158 mg/l - 96 h.

**Persistence/Degradability:** Boron is naturally occurring and ubiquitous in the environment. Borax Decahydrate decomposes in the environment to natural borate.

**Phytotoxicity:** Boron is an essential micronutrient for healthy growth of plants, however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimise the amount of borate released to the environment. Boron occurs naturally in sea water at an average concentration of 5mg/B/1 or less. In dilute aqueous solutions the predominant boron species present is undissociated boric acid.

**Mobility:** The product is soluble in water and is leachable through normal soil.

Partition coefficient :n-octanol/water: Log Kow (Pow): 1.53+-0.05 (at 22+-1'C) pH 7.5

**Environmental Fate:** Large amounts of borax Decahydrate can be harmful to plants and other species, therefore releases to the environment should be minimised.

**Environmental Precautions:** Borax Decahydrate is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption.

**Bioaccumulation Potential:** Not significantly bioaccumulative.

## Section 13 - Disposal Considerations

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

## Section 14 - Transport Information

This product is not classified as a Dangerous Good by the criteria of ADG, IATA, or IMDG

## Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Borax is mentioned in the SUSMP.

## Section 16 - Other Information

**This MSDS contains only safety-related information. For other data see product literature.**

**Acronyms:**

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail	<b>IMDG</b>	International Maritime Dangerous Good
<b>AICS</b>	Australian Inventory of Chemical Substances	<b>IMSBC</b>	International Maritime Solid Bulk Code



<b>CAS number</b>	Chemical Abstracts Service Registry Number	<b>NTP</b>	National Toxicology Program (USA)
<b>Hazchem Number</b>	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters	<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>IARC</b>	International Agency for Research on Cancer	<b>SWA</b>	Safe Work Australia (formerly ASCC and NOHSC)
<b>IATA</b>	International Air Transport Authority	<b>UN Number</b>	United Nations Number

*THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.*

*IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.*

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals" [SWA:2011]

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