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Section 1 - Identification of the Material and Supplier

Chemical nature: Blend of liquid fertiliser ingredients.
Trade Name: Manni-Plex Boron
Product Use: Fertiliser
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

This version issued: July 2016 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

THIS PRODUCT IS CLASSIFIED AS: NOT 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: Not Hazardous - No criteria found.

Safety Phrases: S23, S36, S24/25. Do not breathe mists. Wear suitable protective clothing. Avoid contact with skin and eyes.

SUSMP Classification: None allocated.

UN Number: None allocated

GHS Signal word: NONE. Not hazardous.

PREVENTION

P102: Keep out of reach of children.

P262: Do not get in eyes, on skin, or on clothing.

P281: Use personal protective equipment as required.

RESPONSE

P353: Rinse skin or shower with water.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

STORAGE

P402+P404: Store in a dry place. Store in a closed container.

DISPOSAL

P501: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

Emergency Overview

Physical Description & Colour: Blue liquid

Odour: Mild odour

Major Health Hazards: no significant risk factors have been found for this product.

Section 3 - Composition/Information on Ingredients

| Ingredients | CAS No | Conc, % | TWA (mg/m ³) | STEL (mg/m ³) |
|-------------------------|-------------|---------|--------------------------|---------------------------|
| Citric Acid | 77-92-9 | | not set | not set |
| Monoethanolamine (MEA) | 141-43-5 | | not set | not set |
| Urea | 57-13-6 | | not set | not set |
| Sorbitol | 50-70-4 | | not set | not set |
| Glycerine | 129420-92-4 | 100 | not set | not set |
| Soluble Boron (Solubor) | 12008-41-2 | | not set | not set |
| Monoethylene Glycol | 107-21-1 | | 10 | not set |
| Water | 7732-18-5 | | not set | not set |
| Plus blue dye | | | | |

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The SWA 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. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated 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.

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: If mists have been inhaled, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists for more than about 30 minutes, seek medical advice

Skin Contact: Wash affected areas with water until chemical is removed. Remove all contaminated clothing and launder before re-use. If in doubt obtain medical advice.

Eye Contact: Immediately irrigate with copious amounts of lukewarm, gently flowing water for 15 – 20 minutes or until the product is removed or irritation has ceased, while holding the eyelid(s) open. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.

Ingestion: Give a glass of water if affected person able to drink. Do not induce vomiting unless instructed to do so by medical advice.

Notes to Doctor: Treat symptomatically.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Fire decomposition products from this product are likely to be irritating if inhaled.

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials.

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

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Auto ignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Spillage: Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage. 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. Dispose of only in accord with all regulations.

Section 7 - Handling and Storage

Handling: Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

Storage: Store in cool, dry, well ventilated area removed from combustible materials, herbicides, fungicides and foodstuffs. Ensure containers are labelled, protected from physical damage and sealed when not in use. Keep from extreme heat and open flames and make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section 10

Section 8 - Exposure Controls and 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**.

| SWA Exposure Limits | TWA (mg/m ³) | STEL (mg/m ³) |
|---------------------|--------------------------|---------------------------|
| Monoethylene Glycol | 10 | not set |

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Exposure limits have not been established by SWA for any other of the significant ingredients in this product.

Personal Protection

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: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that mists are minimised.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

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

Respirator: Not normally necessary.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

| | |
|---|--|
| Physical Description & colour: | Blue liquid |
| Odour: | Mild odour. |
| Boiling Point: | approx 100°C |
| Freezing Point: | approx 0°C |
| Volatiles: | No specific data. Expected to be low at 100°C. |
| Vapour Pressure: | Negligible at normal ambient temperatures. |
| Vapour Density: | Not relevant |
| Specific Gravity: | No data. |
| Water Solubility: | Completely miscible |
| pH: | No data. |
| Volatility: | Negligible at normal ambient temperatures. |
| Evaporation Rate: | Not applicable. |
| Auto ignition temp: | Not applicable - does not burn. |

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions.

Conditions to Avoid: Keep containers tightly closed.

Incompatibilities: Compatible with most commonly used materials

Fire Decomposition: May evolve toxic fumes when heated to decomposition

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Potential Health Effects

Ingestion: Ingestion of large amounts may cause stomach cramp and nausea

Eye Contact: Moderate irritation.

Skin: May cause moderate irritation.

Inhalation: If the product is present in high concentrations, it may cause mild irritation to the nose or throat.

Chronic Effects: Repeated or prolonged contact with dilute solutions may cause skin irritation.

Toxicity Data: No LD50 data available for this product.

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.

Classification of Hazardous Ingredients

Ingredient

Risk Phrases

No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

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Phone: 02 9395 1200 (office hours)

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Section 12 - Ecological Information

Environment: Avoid contamination of waterways.

Aquatic organisms: No data available,

Flora: No data available

Bees: Not toxic.

Bioaccumulative potential: Unknown but probably low

Section 13 - Disposal Considerations

Disposal: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service. This product can usually be used for its intended purpose unless contaminated by substances that make it unsuited. May be suitable for landfill

Section 14 - Transport Information

UN Number: This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

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

Section 16 - Other Information

Acronyms:

| | | | |
|-----------------------|--|------------------|--|
| ADG Code | Australian Code for the Transport of Dangerous Goods by Road and Rail | IMSBC | International Maritime Solid Bulk Code |
| AICS | Australian Inventory of Chemical Substances | NOHSC | National Occupational Health and Safety Commission |
| ASCC | Australian Safety & Compensation Council | NTP | National Toxicology Program (USA) |
| CAS number | Chemical Abstracts Service Registry Number | R-Phrase | Risk Phrase |
| Hazchem Number | Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters | SUSMP | Standard for the Uniform Scheduling of Medicines & Poisons |
| IARC | International Agency for Research on Cancer | SWA | Safe Work Australia (formerly ASCC and NOHSC) |
| IATA | International Air Transport Authority | UN Number | United Nations Number |
| IMDG | International Maritime Dangerous Good | | |

THIS SDS 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 SDS 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 SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)

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