



Calcium Nitrate plus Boron

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier	Calcium Nitrate plus Boron
Other means of identification	None assigned
Recommended use of the chemical	Liquid calcium and boron fertiliser for crop production.
Restrictions on Use	Use only for the intended application.
Details of Australian manufacturer or importer	Australian manufacturer / importer: Wilchem Pty Ltd ABN: 44 614 126 573 Address: 39 Jonal Drive, Cavan, SA 5094 AUSTRALIA Telephone: 08 8359 6855 Email: admin@wilchem.com.au Website: www.wilchem.com.au
Emergency phone number	Poisons Information Centre: 13 11 26 , (Australia, 24 hours)

2. HAZARDS IDENTIFICATION

Classification of the hazardous chemical

Classified as a hazardous chemical in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals, 7th Revised Edition (GHS 7), as adopted under Australian WHS legislation.

Hazard class	Acute toxicity (oral), Category 4 Serious eye damage, Category 1 Reproductive toxicity, Category 1B
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Signal word DANGER

Hazard pictograms



Hazard statements

Harmful if swallowed.
Causes serious eye damage.
May damage fertility. May damage the unborn child.

Prevention statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash exposed skin thoroughly after handling.
Do not eat drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response statements	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor. IF exposed or concerned: Get medical advice/attention.
Storage statements	Store locked up.
Disposal statements	Dispose of contents/container in accordance with local/regional/national regulations.
Other hazards which do not result in classification	Spray mist or aerosol may cause irritation of the respiratory tract. Product is non-combustible; however, contamination with incompatible reducing or combustible materials should be avoided.

DANGEROUS GOODS STATEMENT

Not classified as dangerous goods for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road & Rail, Edition 7.9 (ADG Code).

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Identity	CAS No.	Concentration or concentration range (% w/w)
Calcium nitrate	10124-37-5	30 - 50
Boric acid	10043-35-3	0.3 - <1%
Ingredients determined not to be hazardous or present below disclosure thresholds, including water	-	to 100

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation	Remove to fresh air. Keep at rest. Obtain medical advice if ill-effects occur or persist.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Obtain medical advice if irritation develops. Wash clothing before reuse.
Eye contact	Immediately rinse cautiously with clean water for at least 15 minutes, holding eyelids open. Remove contact lenses if easy to do. Continue rinsing. Immediately call a POISONS INFORMATION CENTRE or doctor.
Ingestion	Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a POISONS INFORMATION CENTRE or doctor. If vomiting occurs naturally, lay patient on side, in recovery position.

First aid facilities

Provide eyewash and access to running water.

Symptoms and effects caused by exposure, including acute and delayed effects

Severe eye damage may occur.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

5. FIREFIGHTING MEASURES**Extinguishing media**

Product is water-based and not combustible. Use media appropriate to surrounding fire.

Specific hazards arising from the chemical, including hazardous combustion products

Heating to dryness or fire may produce nitrogen oxides and metal oxides. Containers may rupture when heated.

Special protective equipment and precautions for fire fighters

Evacuate area and contact emergency services. Toxic gases may be present in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combatting fire. Use water fog or spray to cool intact containers and nearby storage areas. Prevent contaminated fire water entering drains and waterways.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Isolate area. Avoid eye/skin contact and mist inhalation. Wear gloves, protective clothing and chemical splash goggles/face shield. Ensure ventilation.

Environmental precautions

Prevent entry to drains, soil and waterways. Notify the appropriate authority if significant contamination occurs.

Methods and materials for containment and clean up

Small spills: Contain and absorb with sand, earth or other suitable inert absorbent material. Recover where practicable and place residues in a suitable labelled container. If washing is required, use the minimum quantity of water necessary and prevent washings entering stormwater drains or waterways.

Large spills: Stop leak if safe to do so. Bund with sand, earth or other inert absorbent material. Recover and recycle liquid where practicable. Absorb residue and place in labelled containers for disposal. Do not wash concentrated product to drain. Wash the area with minimal water and collect washings.

7. HANDLING AND STORAGE**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid unnecessary exposure. Store in a secure area with access restricted to trained personnel as appropriate to workplace risk controls.

Avoid contact and generation of aerosols. Do not eat, drink or smoke while handling. Wash thoroughly after use. Do not mix with other agricultural chemicals unless compatibility has been established.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in the closed original container in a cool, dry, well-ventilated, banded area. Protect from heat, freezing and direct sunlight. Segregate from strong reducing agents, strong acids, ammonia/ammonium-containing materials and combustible or organic materials. Avoid contamination of the product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Workplace exposure standards / limits

No substance-specific Australian workplace exposure standard or workplace exposure limit has been assigned to calcium nitrate or this product.

Exposure to spray mist or aerosol should nevertheless be minimised so far as reasonably practicable.

Biological monitoring

No specific biological exposure limit or biological monitoring requirement has been identified for calcium nitrate.

Engineering controls

Use in well-ventilated areas. Avoid generation of spray mist or aerosols. Where spraying, misting or other operations may generate significant airborne aerosol, use appropriate local exhaust ventilation where practicable.

Workplace risk assessment should specifically consider the reproductive toxicity of the product and the potential for exposure during transfer, spraying, misting or other operations. Exposure should be minimised so far as reasonably practicable.

Personal Protective Equipment (PPE)

Eye and face protection	Splash-proof chemical goggles (AS 1336 / 1337). Where significant splashing is possible, wear a face shield in addition to chemical splash goggles.
Skin protection	Wear chemically resistant protective gloves. Suitable materials may include nitrile, PVC or rubber. Glove selection should take account of the task, duration of contact and the glove manufacturer's chemical-resistance information. Elbow-length gloves are recommended where significant contact or splashing may occur.
Body protection	Clothing should include long sleeves, long trousers, safety boots and chemically resistant gloves. Where significant splashing is possible, wear chemically resistant protective clothing or an apron as appropriate.
Respiratory protection	Respiratory protection is not normally required where the product is handled as a liquid without generation of spray mist or aerosol and adequate ventilation is provided. Where spray mist or aerosol may be generated and adequate exposure control cannot be achieved by ventilation or other engineering controls, wear a correctly fitted respirator incorporating a suitable particulate filter, for example a P2 filter. Respiratory protective equipment must be selected, fitted, used and maintained in accordance with AS/NZS 1715 and AS/NZS 1716.
Thermal hazards	None identified.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Colour	Colourless to yellow
Odour	None
Melting point / freezing point	Not determined
Boiling point	>100°C
Flammability	Nonflammable aqueous mixture
pH (neat)	Approximately 6

Solubility	Soluble in water
Vapour pressure	Not determined
Density and /or relative density	1.46 – 1.50 @ 20°C

10. STABILITY AND REACTIVITY

Reactivity

No specific hazardous reactions are known under normal conditions of use. Avoid contamination with incompatible materials.

Chemical stability

Stable under recommended conditions of storage and handling.

Possibility of hazardous reactions

Hazardous reactions are not expected under normal conditions of use. Contact with strong reducing agents, strong acids or incompatible materials may result in hazardous reactions or decomposition.

Conditions to avoid

Avoid excessive heat, freezing, evaporation to dryness and contamination with incompatible materials.

Incompatible materials

Strong reducing agents, strong acids, ammonia, combustible materials and organic matter. Avoid contamination with incompatible materials including agricultural chemicals and fertilisers.

Hazardous decomposition products

Strong heating or fire may produce nitrogen oxides and calcium-containing decomposition products.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

- Inhalation:** Spray mist or aerosol may cause upper respiratory tract irritation.
- Skin contact:** Incidental skin contact is not likely to cause irritation. Repeated or prolonged contact may cause irritation.
- Ingestion:** Harmful if swallowed. May cause nausea, vomiting, abdominal discomfort and gastrointestinal irritation.
- Eye contact:** Causes serious eye damage. Contact may cause severe pain, redness, watering and tissue injury.
- Chronic effects:** The finished product is not classified for specific target organ toxicity following repeated exposure. Repeated or prolonged exposure should nevertheless be avoided.
- Large or repeated ingestion of nitrate salts may affect the ability of the blood to transport oxygen through formation of methaemoglobin.
- The product is classified as toxic to reproduction, Category 1B, due to its boric acid content. Repeated or significant exposure should be avoided. Boric acid has been classified as capable of damaging fertility and the unborn child.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion may cause nausea, vomiting, diarrhoea and abdominal discomfort. Significant nitrate ingestion may cause headache, dizziness, weakness, shortness of breath or cyanosis associated with methaemoglobinaemia.

Eye contact may cause severe pain, redness, watering and serious tissue damage.

Spray mist or aerosol may cause irritation of the respiratory tract.

Immediate and delayed effects

Serious eye damage may occur immediately following direct contact.

Gastrointestinal effects may occur following ingestion. Methaemoglobinaemia and cyanosis may occur following significant nitrate ingestion.

Numerical measures of toxicity

The finished product has not been tested for acute toxicity.

Calcium nitrate is classified as Acute Toxicity (oral), Category 4. The acute-toxicity classification of the finished product has been derived from the calcium nitrate content and the applicable GHS 7 mixture-classification criteria. Calcium nitrate (CAS No. 10124-37-5) LD50 (rat): 302mg/kg

Toxicological endpoint information

Acute toxicity	Acute toxicity (oral), Category 4. Harmful if swallowed.
Skin corrosion / irritation	Not classified. Repeated or prolonged contact may cause irritation.
Serious eye damage / irritation	Serious eye damage category 1. Causes serious eye damage.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified.
Reproductive toxicity	Reproductive toxicity, Category 1B. May damage fertility. May damage the unborn child.
Specific Target Organ Toxicity (STOT)– single exposure	Not classified
Specific Target Organ Toxicity (STOT) – repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Medical conditions aggravated by exposure	Pre-existing eye or gastrointestinal conditions may be aggravated by exposure.
Additional information	Toxicological test data are not available for the finished product unless otherwise stated. The health hazard assessment has been derived from available information on the ingredients and the applicable GHS 7 mixture-classification criteria.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No ecotoxicological test data are available for the finished product. Large or uncontrolled releases may adversely affect aquatic environments due to nutrient loading and inorganic constituents.

Persistence and Degradability

Conventional biodegradability criteria are not applicable to this inorganic salt. Calcium nitrate readily dissociates in water into calcium and nitrate ions. Nitrate may undergo natural biological transformation through the nitrogen cycle, while calcium may remain dissolved, adsorb to soils or form other mineral salts.

Bioaccumulative Potential

Calcium, nitrate and borate ions are ubiquitous in the environment; bioavailability depends strongly on pH, hardness and water chemistry.

Mobility in Soil

Product is water soluble and mobile before sorption/precipitation.

Other Adverse Effects

Large or uncontrolled releases may contribute nitrate and boron to receiving waters and should be avoided.

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Recover or recycle the product where practicable. Dispose of residues, contaminated absorbents and packaging through a licensed waste contractor in accordance with applicable Commonwealth, state, territory and local requirements. Do not discharge concentrated product to stormwater, surface waters or soil. Empty containers may retain product residues and should be handled accordingly.

14. TRANSPORT INFORMATION**ROAD AND RAIL TRANSPORT**

Not classified as dangerous goods for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road & Rail, Edition 7.9 (ADG Code).

UN number	None allocated
UN proper shipping name	None allocated
Transport hazard class	None allocated
Packing group	None allocated
Subsidiary risk(s)	None allocated
Environmental hazards for transport purposes	None allocated
Special precautions for user	None allocated.
Additional information	None allocated
Hazchem code	None allocated

15. REGULATORY INFORMATION**International conventions and agreements:**

No specific international convention applicable to the product has been identified.

Safety, health and environmental regulations

Poisons scheduling: Not scheduled under the current Australian Poisons Standard.

16. OTHER INFORMATION

This Safety Data Sheet has been prepared in accordance with the Safe Work Australia Model Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals and the Globally Harmonized System of Classification and Labelling of Chemicals, Seventh Revised Edition (GHS 7), as adopted under Australian work health and safety legislation.

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1

Disclaimer

The information in this SDS is based on information reasonably available to the Australian manufacturer or importer at the date of preparation or review. It describes the product in relation to workplace health and safety requirements and is not a product specification or warranty of performance. The product should be used only for the applications identified in Section 1 and in accordance with the information in this SDS. Users remain responsible for assessing workplace risks arising from their particular use conditions and for complying with applicable legislation.

End of Report