

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **CALCIUM NITRATE - GRANULAR**

Other name(s): Calcium ammonium nitrate; CAN.

Recommended Use of the Chemical and Restrictions on Use Fertilizer, raw material.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS. Not classified as security sensitive ammonium nitrate or high consequence dangerous good.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4
Eye Damage - Category 1

SIGNAL WORD: DANGER



Hazard Statement(s):

H302 Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary Statement(s):

Prevention:

P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear eye protection.

Response:

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

Storage:

No storage statements.

Product Name: CALCIUM NITRATE - GRANULAR
Substance No: 000031543601

Issued: 15/01/2020
Version: 8

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**Disposal:**

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Water of crystallisation	7732-18-5	>12%	-
Nitric acid, ammonium calcium salt	15245-12-2	to 100%	H302, H318

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact:

If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice. Nitrates can be absorbed through cut, burnt or broken skin. Launder contaminated clothing before reuse.

Eye Contact:

Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Can cause corneal burns. Treat as for exposure to nitrates. May cause methemoglobinemia. Clinical findings: The smooth muscle relaxant effect of nitrate salts may lead to headache, dizziness and marked hypotension.

Cyanosis is clinically detectable when approximately 15% of the haemoglobin has been converted to methaemoglobin (ie. ferric iron).

Symptoms such as headache, dizziness, weakness and dyspnoea occur when methaemoglobin concentrations are 30% to 40%; at levels of about 60%, stupor, convulsions, coma and respiratory paralysis occur and the blood is a chocolate brown colour. At higher levels death may result. Spectrophotometric analysis can determine the presence and concentration of methaemoglobin in blood.

Treatment:

1. Give 100% oxygen.
 2. In cases of (a) ingestion: use gastric lavage, (b) contamination of skin (unburnt or burnt): continue washing to remove salts.
 3. Observe blood pressure and treat hypotension if necessary.
 4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 to 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not resolved within one hour a second dose of 2 mg/kg body weight may be given. The total dose should not exceed 7 mg/kg body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
 5. Bed rest is required for methaemoglobin levels in excess of 40%.
 6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
 7. Consider transfer to centre where haemoperfusion can be performed to remove the nitrates from the blood if the condition of the patient is unstable.
 8. Following inhalation of oxides of nitrogen the patient should be observed in hospital for 24 hours for delayed onset of pulmonary oedema.
- Further observation for 2-3 weeks may be required to detect the onset of the inflammatory changes of bronchiolitis fibrosa obliterans.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Not combustible, however, if material is involved in a fire use: Water jets. Water spray (large quantities).

Unsuitable Extinguishing Media:

Dry powder. Carbon dioxide. Halogens. Foam.

Specific hazards arising from the chemical:

Non combustible, but will support combustion of other materials.

Special protective equipment and precautions for fire-fighters:

Not combustible, however will support the combustion of other materials. Increases intensity of a fire. Decomposes on heating emitting toxic fumes, including those of oxides of nitrogen. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. In the case of a transport accident notify the Police, Regulatory Authorities and Ixom Operations Pty Ltd (Telephone: 1800 033 111 -- 24 hour service Australia) and/or (Telephone: 0800 734 607 -- 24 hour service New Zealand) or Ixom International Australia (Telephone: +61 3 9663 2130 -- 24 hour service Australia). If contamination of sewers or waterways has occurred advise local emergency services.

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Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation. When using do not eat, drink or smoke. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Do not reuse container.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for particulates:

Dusts not otherwise classified: 8hr TWA = 10 mg/m³

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:

Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.

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Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Granules
Colour:	White
Odour:	Odourless
Odour Threshold:	Not available
Solubility:	Soluble in water.
Specific Gravity:	2.05 @20°C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	>400
Solubility in water (g/L):	100
Melting Point/Range (°C):	400
pH:	5-7 (10% aqueous solution)

10. STABILITY AND REACTIVITY

Reactivity:	Non-reactive under normal conditions of use, storage and transport.
Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions:	None known. Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame. Avoid dust generation. Avoid contact with organic materials, oils, greases. Avoid contact with combustible chemicals.
Incompatible materials:	Incompatible with acids, alkalis, reducing agents.
Hazardous decomposition products:	Oxides of nitrogen. Metal oxides.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

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Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain. Swallowing large amounts may result in headaches, dizziness and a reduction in blood pressure (hypotension).

Eye contact: A severe eye irritant. Contamination of eyes can result in permanent injury.

Skin contact: Contact with skin may result in irritation. Can be absorbed through cut, broken, or burnt skin with resultant adverse effects.

Inhalation: Breathing in dust may result in respiratory irritation.

Absorption of nitrates by inhalation, ingestion or through burnt or broken skin may cause dilation of blood vessels by direct smooth muscle relaxation and may also cause methaemoglobinaemia.

Acute toxicity:
Oral LD50 (rat): >300-<2000 mg/kg
Dermal LD50 (rat): >2000 mg/kg

Skin corrosion/irritation: Not classified.
Serious eye damage/irritation: Severe irritant (rabbit).
Respiratory or skin sensitisation: Not classified.

Chronic effects:

Mutagenicity: Not classified.
Carcinogenicity: Not classified.
Reproductive toxicity: Not classified.
Specific Target Organ Toxicity (STOT) - single exposure: Not classified.
Specific Target Organ Toxicity (STOT) - repeated exposure: Not classified.
Aspiration hazard: Not classified.

Following the ingestion of nitrates in humans and animals methaemoglobinaemia has occurred.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

Persistence/degradability: No information available.

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

48hr EC50 (Daphnia magna): >100 mg/L
48hr LC50 (fish): 447 mg/L (Labeo boga; fresh water)

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Marine Transport

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Air Transport

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4

Eye Damage - Category 1

Hazard Statement(s):

H302 Harmful if swallowed.

H318 Causes serious eye damage.

Poisons Schedule (SUSMP): None allocated.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Supplier Safety Data Sheet; 12/ 2018.

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

Reason(s) for Issue:

Revised Primary SDS

Update in Toxicological Information

Change in Physical Properties

Safety Data Sheet



This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.