

SAFETY DATA SHEET



Revision date: 31-Mar-2023

Revision Number 1

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name CALCIUM AMMONIUM NITRATE GRANULAR FERTILISER + Mg

Product Code(s) 000000054446

Other means of identification

Synonyms NAC 24.6 to 27; NAC 24.6 to 27 with Mg.

Recommended use of the chemical and restrictions on use

Recommended use Fertilizer, preparation of fertilizers.

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226 Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700

Facsimile: +64 9 368 2710

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

Emergency Telephone 0 800 734 607 (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 a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; NON-DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

SIGNAL WORD

Warning

Fertilisers (Subsidiary Hazard) Group Standard 2020

Approval Number: HSR002571

Serious eye damage/eye irritation	Category 2
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Label elements



Hazard statements

H319 - Causes serious eye irritation

Precautionary Statements - Prevention

Wash eyes thoroughly after handling.

Wear eye/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Precautionary Statements - Storage

No storage statements

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

Contact with acids liberates toxic gas

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	CAS No.	Weight-%
Ammonium nitrate	6484-52-2	70-80
Calcium sulfate	7778-18-9	<30
Magnesium carbonate	546-93-0	<30
Non hazardous component(s)	-	to 100

4. FIRST AID MEASURES

Description of first aid measures

General advice

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

Emergency telephone number

Poisons Information Center, New Zealand: 0800 764 766
Poisons Information Center, Australia: 13 11 26

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Get medical attention if symptoms occur.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get

medical attention if symptoms occur.

Self-protection of the first aider Avoid contact with skin, eyes, and clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Irritation. May cause redness and tearing of the eyes.

Indication of any immediate medical attention and special treatment needed

Note to physicians

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 (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 2mg/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

Suitable Extinguishing Media Dry chemical powder. Dry sand.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Nitrate salts on their own are not combustible, however, they will support the combustion of other materials. Decomposes on heating emitting irritating white fumes and/or brown fumes. Brown fumes indicate the presence of toxic oxides of nitrogen.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes. Do not touch or walk through spilled material. Ensure adequate ventilation. Stop leak if you can do it without risk. Use personal protective equipment as required. Wash thoroughly after handling.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with eyes. Avoid breathing dust or spray mist. Ensure adequate ventilation. Use personal protection equipment. Wash thoroughly after handling.

General hygiene considerations Avoid contact with eyes. Wash hands and face before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible materials Ammonium nitrate is incompatible with, and must be stored away from, tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromates, chlorates, chlorites, hypochlorites, perchlorates, chloroisocyanurates, nitrites, powdered metals, strong acids, reducing agents, permanganates, combustible materials, brass, bronze, copper, zinc. Mild steel.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

Calcium sulphate (Gypsum; Plaster of Paris): WES-TWA 10 mg/m³
Magnesite (Magnesium carbonate): 8hr WES-TWA = 10 mg/m³

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

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

Engineering controls Apply technical measures to comply with the occupational exposure limits.

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

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.



Eye/face protection

Goggles.

Hand protection

Impervious gloves.

Skin and body protection

Wear suitable protective clothing. Boots. Overalls.

Respiratory protection

If determined by a risk assessment an inhalation risk exists, wear a dust mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Granules
Color	White
Odor	Odourless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.5 (10%)	None known
Melting point / freezing point	170°C	None known
Boiling point / boiling range	210°C	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	Not applicable	None known
Vapor density	Not applicable	None known
Relative density	1.72 @20°C	
Water solubility	1183 g/L @ 20 °C	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	>210°C	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	

Other information

10. STABILITY AND REACTIVITY

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under recommended storage conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Non-combustible, substance itself does not burn but may react upon heating to produce corrosive and/or toxic fumes.

Conditions to avoid

Conditions to avoid Avoid dust generation. To avoid thermal decomposition, do not overheat.

Incompatible materials

Incompatible materials Ammonium nitrate is incompatible with, and must be stored away from, tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromates, chlorates, chlorites, hypochlorites, perchlorates, chloroisocyanurates, nitrites, powdered metals, strong acids, reducing agents, permanganates, combustible materials, brass, bronze, copper, zinc. Mild steel.

Hazardous decomposition products

Hazardous decomposition products Nitrogen oxides. Ammonia. Oxides of sulfur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

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

Inhalation May cause irritation. Absorption of ammonium nitrate 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. May cause dizziness, drowsiness, nausea and headache due to central nervous system effects.

Eye contact Causes serious eye irritation.

Skin contact May cause irritation. The ammonium nitrate component of this material can be absorbed through burnt, cut or broken skin with resultant adverse effects. See effects as noted under 'Inhalation'.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Symptoms Irritation. May cause redness and tearing of the eyes.

Acute toxicity

Numerical measures of toxicity

Refer to component information below.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium nitrate	= 2217 mg/kg (Rat)	-	> 88.8 mg/L (Rat) 4 h
Calcium sulfate	> 3000 mg/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation Causes serious eye irritation. Classification is based on mixture calculation methods based on component data.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Chronic effects:	NITRATES: Absorption of nitrates by ingestion, inhalation or through burnt or broken skin may cause dilation of the blood vessels by direct smooth muscle relaxation with a subsequent lowering of blood pressure and may also cause breathing difficulties, blueness of the skin (cyanosis) and methaemoglobinaemia.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity	Keep out of waterways.
Terrestrial ecotoxicity	There is no data for this product.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Calcium sulfate	-	LC50: =2980mg/L (96h, Lepomis macrochirus) LC50: >1970mg/L (96h, Pimephales promelas)	EC50: =3200mg/L (120h, Nitscheria linearis)

Persistence and degradability

Persistence and degradability	No information available.
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Bioaccumulative potential

Bioaccumulation	No information available.
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Mobility

Mobility in soil	No information available.
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Other adverse effects

Other adverse effects	No information available.
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13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the
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characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; NON-DANGEROUS GOODS.

IATA

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.

IMDG

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

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

New Zealand

National regulations

See section 8 for national exposure control parameters

International Inventories

NZIoC

All the constituents of this material are listed on the New Zealand Inventory of Chemicals.

TSCA

Contact supplier for inventory compliance status.

DSL/NDSL

Contact supplier for inventory compliance status.

EINECS/ELINCS

Contact supplier for inventory compliance status.

ENCS

Contact supplier for inventory compliance status.

IECSC

Contact supplier for inventory compliance status.

KECL

Contact supplier for inventory compliance status.

PICCS

Contact supplier for inventory compliance status.

AIIC

Contact supplier for inventory compliance status.

Legend:

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC- Australian Inventory of Industrial Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. OTHER INFORMATION

Supplier Safety Data Sheet 08/ 2022

Prepared By This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

Issuing Date: 31-Mar-2023

Reason(s) For Issue: First Issue Primary SDS

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

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.

End of Safety Data Sheet