



交城县金兰化工有限公司  
JIAOCHENG KCNLAN CHEMICAL CO., LTD.

## **MATERIAL SAFETY DATA SHEET**

### **For Calcium Ammonium Nitrate**

#### **Company Identification:**

##### **Manufacturer:**

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## **1. IDENTIFICATION**

**Revision Date** FEBRUARY 2013

**Product Name** Calcium Ammonium Nitrate

**Other Names ;** Calcium Nitrate Granular;

**Uses** Fertilizers.

## **2. HAZARD IDENTIFICATION**

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

#### **Risk Phrases**

R36 Irritating to eyes.

#### **Safety Phrases**

S25 Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek

S26 medical advice.

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Ingredients**

<b>Chemical Entity</b>	<b>CAS Number</b>	<b>Proportions (%)</b>
CALCIUM NITRATE GRANULAR	[15245-12-2]	100

Chemical Entity	CAS Number	Proportions (%)
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(CALCIUM AMMONIUM NITRATE)		
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WATER	[7732-18-5]	>12
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## 4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure.

### Swallowed

Rinse mouth with water. Give water to drink provided person is conscious. Do NOT induce vomiting. Seek medical attention.

### Eye

Immediately flush eyes with plenty of water holding eyelids open. If irritation persists, seek medical attention.

### Skin

Remove contaminated clothing. Flush affected area with plenty of water. If irritation persists, seek medical attention.

### Inhaled

Remove victim from exposure to fresh air. If breathing is difficult, give oxygen as needed. Seek medical attention.

### Advice to Doctor

Treat symptomatically based on individual reactions of patient and judgement of doctor. NOTE: For advice in an emergency, contact a Poisons Information Centre (Australia 13-11-26 or New Zealand 0800-764-766).

Persons with other blood dyscrasias, especially anemia might have increased sensitivity. Persons exposed to other oxidizing agents or other agents known to induce methemoglobinemia, such as aniline, nitrobenzene, or other nitrates, or those exposed to agents known to deprive the body of oxygen, such as carbon monoxide, hydrogen sulfide or asphyxiates, might be hypersusceptible. Pre-existing heart disease might be aggravated from exposure to this product.

## 5. FIRE FIGHTING MEASURES

### Extinguishing Media

In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions. Water spray may be used to cool down fire-exposed containers.

### Hazards from Combustion Products

Non-combustible solid. But substance is a strong oxidizer and its heat of reaction with reducing

agents or combustibles may cause ignition. Can cause explosions in contact with combustible dust or vapours, occasionally explosive by shock or friction. Sensitive to mechanical impact. Incompatible

with oxidizing agents, organic materials, powdered metals, ammonia, hydrazine, reducing agents, combustible materials and sources of ignition. Exposure to heat may result in build-up of dangerous pressures. Other calcium nitrate compounds are strong oxidizers and react violently upon contact with many organic substances, particularly textile and paper. When involved in a fire, this product may generate oxides of nitrogen.

#### **Special Protective Precautions and Equipment for Fire Fighters**

Fire fighters should wear a self contained breathing apparatus and full protective clothing along with protective equipment.

#### **Flammability Conditions**

Non-combustible solid. But substance is a strong oxidizer. Dangerous fire risk in contact with organic materials. May explode if shocked or heated.

Additional Information

#### **Hazchem Code**

N/A

## **6. ACCIDENTAL RELEASE MEASURES**

#### **Emergency Procedures**

Personnel involved in the clean up should wear full protective clothing. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Do not allow product to reach drains, sewers or waterways. If the product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use spark-proof tools and equipment.

#### **Methods and Materials for Containment and Clean Up**

Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled chemical waste container and hold for safe disposal.

## **7. HANDLING AND STORAGE**

#### **Precautions for Safe Handling**

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with skin and eyes. Do not breathe dust.

### Conditions for Safe Storage (Including Any Incompatibles)

Store in a cool, dry, well-ventilated area. Keep containers tightly sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect from physical damage. Store away from incompatible materials including oxidizing agents, organic materials, powdered metals, ammonia, hydrazine, reducing agents, combustible materials and sources of ignition. Protect from direct sunlight and moisture. Do not store on wooden flooring. Avoid generating dust. Special Provision 208 of the IMDG Code states 'The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is not subject to the provisions of this Code.

### Container Type

Packaging must comply with requirements of Hazardous Substances (Packaging) Regulations 2001. Store in original packaging as approved by manufacturer.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### National Exposure Standards

No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC). However, the exposure standard for dust not otherwise specified is 10mg/m<sup>3</sup> (for inspirable dust) and 3mg/m<sup>3</sup> (for respirable dust).

### Biological Limit Values

No information available on biological limit values for this product.

### Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

### Personal Protection

RESPIRATOR: Wear an approved respirator where dusts/vapours are generated and engineering controls are inadequate (AS1715/1716). EYES: Safety glasses with side shields (AS1336/1337). HANDS: Wear protective gloves (AS2161). CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	White granules
<b>Formula</b>	5Ca(NO <sub>3</sub> ) <sub>2</sub> .NH <sub>4</sub> NO <sub>3</sub> .10H <sub>2</sub> O
<b>Odour</b>	odorless
<b>Vapour Pressure</b>	Not applicable.

<b>Boiling Point</b>	Not applicable.
<b>Melting Point</b>	45 deg C
<b>Solubility in Water</b>	Soluble
<b>Specific Gravity</b>	Not applicable.
<b>Flash Point</b>	Not applicable.
<b>pH</b>	5.7-7.0
<b>Lower Explosion Limit</b>	Not applicable.
<b>Upper Explosion Limit</b>	Not applicable.
<b>Ignition Temperature</b>	Not applicable.
<b>Specific Heat Value</b>	Not applicable.
<b>Flame Propagation/Burning Rate of Solid Materials</b>	Not applicable.
<b>Properties of Materials That May Initiate or Contribute to Fire Intensity</b>	Not applicable.
<b>Potential for Dust Explosion</b>	Not applicable.
<b>Reactions that Release Flammable Gases</b>	Not applicable.
<b>Fast of Intensely Burning Characteristics</b>	Not applicable.
<b>Non-flammables That Could Contribute Unusual Hazards to a Fire</b>	Not applicable.
<b>Release of Invisible Flammable Vapours and Gases</b>	Not applicable.
<b>Decomposition Temperature</b>	Not applicable.
<b>Additional Information</b>	Bulk Density: 1100kg/m <sup>3</sup>

## 10. STABILITY AND REACTIVITY

### **Chemical Stability**

Product is stable under normal conditions of use, storage and temperature.

### **Conditions to Avoid**

Avoid excessive heat, generating dust, direct sunlight, moisture, static discharges and high temperatures.

### **Incompatible Materials**

Incompatible with oxidizing agents, organic materials, powdered metals, ammonia, hydrazine, reducing agents, combustible materials and sources of ignition.

### **Hazardous Decomposition Products**

When involved in a fire, this product may generate oxides of nitrogen.

### **Hazardous Reactions**

Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Toxicity Data

Calcium Nitrate; Oral LD50 Rat: >2000mg/Kg Ammonium Nitrate; Oral LD50 Rat: 2217mg/Kg Calcium Nitrate Tetrahydrate; Oral LD50 Rat: 3900mg/Kg Eye Irritation: 500mg/24hr Mild (rabbit)

### Health Effects - Acute

#### Swallowed

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Small amounts are unlikely to cause toxic effects. Large amounts may give rise to gastro-intestinal disorders and in extreme cases, formation of methaemoglobin (blue baby syndrome) and cyanosis (indicated by blueness around the mouth) may occur.

**Eye** Causes eye irritation, redness and pain.

**Skin** Causes skin irritation, redness, itching and pain.

**Inhaled** Inhalation of product dust/vapours may cause respiratory tract irritation, coughing and shortness of breath. Inhalation of nitrous gases (decomposition product) may cause edema of the lungs. Symptoms may be delayed up to 48 hours.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

No data available.

### Persistence and Degardability

Ammonium ion is toxic to plants in large concentrations. Ammonium ion will convert to the nitrate form with accompanying acidification of the soil. Nitrate ion will leach more easily than ammonium ion, and may pollute water courses and are toxic to people (especially children) at high concentrations (methemoglobinemia). Nitrate ion will become part of the natural Nitrogen cycle by converting to nitrogen gas (N<sub>2</sub>) or by becoming part of organisms.

### Mobility

Ammonium and nitrate ions are mobile (the nitrate ion more so than ammonium ion) and will leach from soils and into water courses. Calcium ion is less mobile and will remain attached to soil constituents.

### Environmental Fate (Exposure)

Avoid contaminating waterways, drains and sewers.

### Bioaccumulative Potential

No information available on bioaccumulation for this product.

## 13. DISPOSAL CONSIDERATIONS

### Disposal

Dispose of in accordance with all local, state and federal regulations.

### Special Precautions for Land Fill or Incineration

The waste code classification is to be carried out according to the European Waste Catalogue (EWC) specifically for each branch of industry and each type of process.

## 14. TRANSPORT INFORMATION

### Land Transport

<b>UN Number</b>	Not applicable.
<b>Shipping Name</b>	CALCIUM NITRATE GRANULAR
<b>Dangerous Goods Class</b>	Not applicable.
<b>Subsidiary Risk</b>	Not applicable.
<b>Pack Group</b>	Not applicable.
<b>Hazchem Code</b>	Not applicable.

### Sea Transport

<b>UN Number</b>	Not applicable.
<b>Shipping Name</b>	CALCIUM NITRATE GRANULAR
<b>Dangerous Goods Class</b>	Not applicable.
<b>Subsidiary Risk</b>	Not applicable.
<b>Pack Group</b>	Not applicable.
<b>Hazchem Code</b>	Not applicable.

## 15. REGULATORY INFORMATION

<b>Poisons Schedule</b>	Not applicable.
<b>EPG</b>	Not applicable.
<b>AICS Name</b>	NITRIC ACID, CALCIUM SALT
<b>ERMA Approval Code</b>	HSR003543

## 16. OTHER INFORMATION

**Literature References** :No data available.

**Sources for Data** :No data available.

### **EU regulations**

**Risk phrases:** This product is not classified according to EU Legislation.

**Product use:** Agricultural applications.

**Chemical Weapons Convention:** No

**TSCA 12(b):** No

**CDTA:** No

**Chronic:** No

**Fire:** No

**Pressure:** No

**Reactivity:** No (Pure / Solid)

**Poison Schedule:** None allocated.

### **WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.