

## Calcium Nitrate, 4-Hydrate

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Calcium Nitrate, 4-Hydrate

**Synonyms/Generic Names:** Calcium Nitrate, hydrate; Calcium Nitrate, Tetrahydrate

**SDS Number:** 153.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**OSHA Hazards:** Oxidizer, Carcinogen, Target organ effect

**Target Organs:** Blood, Central nervous system

**Signal Words:** Warning

**Pictograms:**



**GHS Classification:**

Oxidizing solids	Category 3
Acute toxicity, Oral	Category 5
Skin irritation	Category 3
Eye irritation	Category 2B

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H272	May intensify fire; oxidizer.
H303	May be harmful if swallowed.
H316	Causes mild skin irritation.
H320	Causes eye irritation.

**Precautionary Statements:**

P220	Keep/store away from clothing/combustible materials.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation.
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	May be harmful if swallowed.

**NFPA Ratings**

<b>Health</b>	2
<b>Flammability</b>	0
<b>Reactivity</b>	0
<b>Specific hazard</b>	OX

**HMIS Ratings**

<b>Health</b>	2
<b>Fire</b>	0
<b>Reactivity</b>	0
<b>Personal</b>	E

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Calcium Nitrate	100	13477-34-4	233-332-1	Ca(NO <sub>3</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	236.15 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	In case of eye contact, rinse with plenty of water and seek medical attention.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (calcium oxides, nitrogen oxides) under fire conditions. (See also Stability and Reactivity section).

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for</b>	Pick up and arrange disposal without creating dust. Sweep up and

<b>containment and cleaning up</b>	shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.
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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts. Keep away from sources of ignition – No smoking.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Hygroscopic.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Occupational exposure controls:** Ventilation and appropriate grounding of containers. Contains no substances with occupational exposure limit values.

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses with side shields or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance (physical state, color, etc.)	Colorless transparent crystals.
Odor	Not Available
Odor threshold	Not Available
pH	5.5-7.0
Melting point/freezing point	45°C (113°F)
Initial boiling point and boiling range	132°C (270°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Flammable
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Completely soluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Contact with combustible clothing.
<b>Incompatible Materials</b>	Organics, combustible materials, strong reducing agents.
<b>Hazardous Decomposition Products</b>	Nitrogen oxides, calcium oxide.

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

<b>Skin</b>	Skin – rabbit – Mild skin irritation – 24 hours
<b>Eyes</b>	Eyes – rabbit – Mild eye irritation – 24 hours
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 Oral – rat – 3,900 mg/kg

### Carcinogenicity

<b>IARC</b>	2A: Probably carcinogenic to humans.
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Redness, itching.
<b>Eyes</b>	Redness, tearing, itching, burning, conjunctivitis.
<b>Respiratory</b>	Irritation of mucous membranes, coughing, wheezing, shortness of breath
<b>Ingestion</b>	Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	Not Available
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

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### 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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### 14. TRANSPORTATION INFORMATION

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US DOT	UN1454, Calcium Nitrate, 5.1, pg III
TDG	UN1454, CALCIUM NITRATE, 5.1, pg III
IMDG	UN1454, CALCIUM NITRATE, 5.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1454, Calcium Nitrate, 5.1, pg III

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### 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Calcium Nitrate tetrahydrate
SARA 312	Calcium Nitrate tetrahydrate
SARA 313	Not Listed
WHMIS Canada	Class C: Oxidizing material. Class F: Dangerously reactive material.

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### 16. OTHER INFORMATION

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Revision	Date
Revision 1	01/07/2013

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