



J.T. Baker Inc.
222 Red School Lane
Phillipsburg, NJ 08865

24-Hour Emergency Telephone 908-859-2151
National Response Center 800-424-8802
Chemtrec 800-424-9300

MATERIAL SAFETY DATA SHEET

FICHE
SIGNALÉTIQUE

National Response In Canada
CANUTEC 613-996-6666

HOJAS DE DATOS
DE SEGURIDAD

Outside U.S. and Canada
Chemtrec 202-483-7616

CU451 -05
Effective: 05/01/89

Calcium Nitrate, 4-Hydrate

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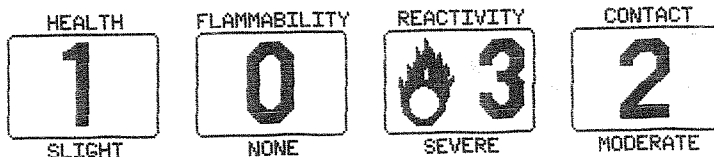
J.T. BAKER INC., 222 Red School Lane, Phillipsburg, NJ 08865

SECTION I - PRODUCT IDENTIFICATION

Product Name: Calcium Nitrate, 4-Hydrate
Common Synonyms: Calcium (II) Nitrate, Tetrahydrate; Nitric Acid, Calcium Salt, Tetrahydrate
Chemical Family: Calcium Compounds
Formula: $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$
Formula Wt.: 236.15
CAS No.: 13477-34-4
NIOSH/RTECS No.: EW3000000
Product Use: Laboratory Reagent
Product Codes: 1395

PRECAUTIONARY LABELING

ER SAF-T-DATA* System



Laboratory Protective Equipment



U.S. Precautionary Labeling

DANGER!

CAUSES IRRITATION. STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.

Keep from contact with clothing and other combustible materials. Do not store near combustible materials. Avoid contact with eyes, skin, clothing. Avoid breathing dust. Keep in tightly closed container. Use with adequate ventilation. Wash thoroughly after handling. In case of fire, soak with water. In case of spill, sweep up and remove. Flush spill area with water.

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PRECAUTIONARY LABELING (CONTINUED)

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International Labeling

Avoid contact with eyes. After contact with skin, wash immediately with plenty of water. Keep container tightly closed.

SAF-T-DATA* Storage Color Code: Yellow (reactive)

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SECTION II - COMPONENTS

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<u>Component</u>	<u>CAS No.</u>	<u>Weight %</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Calcium Nitrate, 4-Hydrate	13477-34-4	99-100	N/E	N/E

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SECTION III - PHYSICAL DATA

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Boiling Point: N/A	Vapor Pressure (mmHg): N/A
Melting Point: 45°C (113°F) (at 760 mm Hg)	Vapor Density (air=1): N/A
Specific Gravity: 1.82 (H ₂ O=1)	Evaporation Rate: N/A
Solubility(H ₂ O): Appreciable (>10%)	% Volatiles by Volume: 0 (21°C)
pH: N/A	Physical State: Solid
Odor Threshold (ppm): N/A	
Coefficient Water/Oil Distribution: N/A	
Appearance & Odor: White crystals. Odorless.	



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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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Flash Point (Closed Cup): N/A

Autoignition Temperature: N/A

Flammable Limits: Upper - N/A Lower - N/A

Fire Extinguishing Media
 Use water spray.

Special Fire-Fighting Procedures
 Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Unusual Fire & Explosion Hazards
 - Strong oxidizer. Contact with other material may cause fire. Can react violently with shock, friction or heat.

Toxic Gases Produced
 oxides of nitrogen

Explosion Data-Sensitivity to Mechanical Impact
 Yes.

Explosion Data-Sensitivity to Static Discharge
 None identified.

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SECTION V - HEALTH HAZARD DATA

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Threshold Limit Value (TLV/TWA): Not Established

Short-Term Exposure Limit (STEL): Not Established

Permissible Exposure Limit (PEL): Not Established

Toxicity of components

Oral Rat LD₅₀ for Calcium Nitrate, 4-Hydrate 3900 mg/kg
 Carcinogenicity: NTP: No IARC: No Z List: No OSHA Reg: No



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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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Carcinogenicity
 None identified.

Reproductive Effects
 None identified.

Effects of Overexposure

- INHALATION: irritation of upper respiratory tract
- SKIN CONTACT: irritation
- EYE CONTACT: irritation
- SKIN ABSORPTION: none identified
- INGESTION: gastrointestinal irritation, nausea, vomiting
- CHRONIC EFFECTS: none identified

Target Organs
 eyes, skin

Medical Conditions Generally Aggravated by Exposure
 none identified

Primary Routes of Entry
 skin contact, eye contact, inhalation, ingestion

Emergency and First Aid Procedures

- INGESTION: CALL A PHYSICIAN. If swallowed, if conscious, give large amounts of water. Induce vomiting.
- INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use.
- EYE CONTACT: In case of eye contact, immediately flush with plenty of water for at least 15 minutes.



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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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SARA/TITLE III HAZARD CATEGORIES and LISTS

Acute: Yes Chronic: Yes Flammability: Yes Pressure: No Reactivity: No

Extremely Hazardous Substance: No
CERCLA Hazardous Substance: No
SARA 313 Toxic Chemicals: No
TSCA Inventory: Yes

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SECTION VI - REACTIVITY DATA

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Stability: Stable Hazardous Polymerization: Will not occur

Conditions to Avoid: heat, flame, shock

Incompatibles: combustibile materials, strong reducing agents, organic materials, ammonia

Decomposition Products: oxides of nitrogen

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SECTION VII - SPILL & DISPOSAL PROCEDURES

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Steps to be Taken in the Event of a Spill or Discharge

Wear self-contained breathing apparatus and full protective clothing. Keep combustibles (wood, paper, oil, etc.) away from spilled material. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water.

Disposal Procedure

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

EPA Hazardous Waste Number: D001 (Ignitable Waste)



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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

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Ventilation: Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible.

Respiratory Protection: None required where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask.

Eye/Skin Protection: Safety goggles, uniform, butyl rubber gloves are recommended.

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SECTION IX - STORAGE AND HANDLING PRECAUTIONS

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SAF-T-DATA* Storage Color Code: Yellow (reactive)

Storage Requirements
 Keep container tightly closed. Store separately and away from flammable and combustible materials.

Special Precautions
 DO NOT EXPOSE TO HEAT. Product melts at 45°C (113°F). STORE/TRANSPORT AT OR BELOW 30°C (86°F).

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

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Domestic (D.O.T.)

Proper Shipping Name: Calcium nitrate
 Hazard Class: Oxidizer
 UN/NA: UN1454
 Labels: OXIDIZER
 Regulatory References: 49CFR 172.101; 173.182

International (I.M.O.)

Proper Shipping Name: Calcium nitrate
 Hazard Class: 5.1
 UN: UN1454 Marine Pollutants: No
 Labels: OXIDIZING AGENT
 Regulatory References: 49CFR 172.102; Part 176; IMO

I.M.O. Page: 5030
 Packaging Group: III



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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)

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AIR (I.C.A.O.)

Proper Shipping Name: Calcium nitrate
 Hazard Class: 5.1 Packaging Group: III
 UN: UN1454
 Labels: OXIDIZING AGENT
 Regulatory References: 49CFR 172.101; 173.6; Part 175; ICAO/IATA
 U.S. Customs Harmonization Number: 28342900005

N/A = Not Applicable or Not Available
 N/E = Not Established

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, Baker cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Baker warrants that the chemical meets the specifications set forth on the label. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Baker will periodically revise this Material Safety Data Sheet.

Note: CHEMTREC, CANUTEC, and NATIONAL RESPONSE CENTER emergency telephone numbers are to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to Customer Service (1-800-JTBAKER) for assistance.



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Approved by Quality Assurance Department.