CALCIUM NITRATE

CNT

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Calcium nitrate tetrahydrate	Solid	White	Odorless
	Sinks and mixes with water.		

Call fire department.
Keep people away. Avoid contact with solid.
Notify local health and pollution control agencies.
Protect water intakes.

Fire	Not flammable. May cause fire on contact with combustibles. POISONOUS GASES MAY BE PRODUCED WHEN HEATED. Flood discharge area with water.
Exposure	Call for medical aid. DUST Irritating to eyes, nose and throat. Move victim to fresh air. If in eyes, hold eyelids open and flush with plenty of water. SOLID Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
Water Pollution	Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge
Collection Systems: Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: $Ca(NO_3)_2 4H_2O$
2.3 IMO/UN Designation: 5.1/1454
2.4 DOT ID No.: 1454
2.5 CAS Registry No.: 10124-37-5
2.6 NAERG Guide No.: 140
2.7 Standard Industrial Trade Classification: 52359

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Dust respirator and rubber gloves.
3.2 Symptoms Following Exposure: Dust causes mild irritation of eyes.
3.3 Treatment of Exposure: EYES or SKIN: flush with water and seek medical assistance.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Currently not available
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: None
3.10 Vapor (Gas) Irritant Characteristics: Not pertinent
3.11 Liquid or Solid Characteristics: Currently not available
3.12 Odor Threshold: Odorless
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Not flammable, but may cause fire on contact with combustibles.
4.2 Flammable Limits in Air: Not flammable
4.3 Fire Extinguishing Agents: Flood with water.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: May give off toxic oxides of nitrogen when involved in fire.
4.6 Behavior in Fire: Greatly intensifies the burning of all combustible materials.
4.7 Auto Ignition Temperature: Not pertinent
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not pertinent
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Not Pertinent
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Not Pertinent
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: Contact with combustible material may cause fire.
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: 10,000 ppm/96 hr/sunfish/TL_m/fresh water
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): None
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Analytical reagent (99.0+%); purified; technical
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Ambient
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Oxidizer
8.2 49 CFR Class: 5.1
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 164
9.3 Boiling Point at 1 atm: Decomposes
9.4 Freezing Point: 1,042°F = 561°C = 834°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 2.50 at 18°C (solid)
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: (est.)–90 Btu/lb = –50 cal/g = -2.1×10^5 J/kg
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: 31.2 cal/g
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	NOT PERTINENT		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	280.500		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT
36	295.099						
38	309.599						
40	324.199						
42	338.799						
44	353.299						
46	367.899						
48	382.399						
50	397.000						
52	411.500						
54	426.099						
56	440.599						
58	455.199						
60	469.799						
62	484.299						
64	498.899						
66	513.399						
68	528.000						
70	542.500						
72	557.099						
74	571.599						
76	586.199						
78	600.799						
80	615.299						
82	629.899						
84	644.399						