

CALCIUM CHLORIDE

CLC

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Calcium chloride, anhydrous Calcium chloride hydrates		Solid or water solution	White to off-white	Odorless
		Sinks and mixes with water.		
Keep people away. Avoid contact with liquid and solid. Wear rubber overclothing (including gloves). Notify local health and pollution control agencies. Protect water intakes.				
Fire	Not flammable.			
Exposure	CALL FOR MEDICAL AID. SOLUTION OR SOLID Will burn skin and eyes. If swallowed will cause nausea and vomiting. 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. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.			
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	2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: CaCl ₂ ·xH ₂ O where x = 0 to 6 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: Not listed 2.5 CAS Registry No.: 10043-52-4 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 52322
3. HEALTH HAZARDS	
3.1 Personal Protective Equipment: Safety glasses or face shield, dust-type respirator, rubber gloves	
3.2 Symptoms Following Exposure: Inhalation causes irritation of nose and throat. Ingestion causes irritation of mouth and stomach. Contact with eyes (particularly by dust) causes irritation and possible transient corneal injury. Contact of solid with dry skin causes mild irritation; strong solutions can cause marked irritation, even a superficial burn.	
3.3 Treatment of Exposure: INHALATION: move to fresh air; if discomfort persists, get medical attention. INGESTION: give large amounts of water. EYES: promptly flood with water and continue washing for at least 15 min.; consult an ophthalmologist. SKIN: flush with water.	
3.4 TLV-TWA: Not listed.	
3.5 TLV-STEL: Not listed.	
3.6 TLV-Ceiling: Not listed.	
3.7 Toxicity by Ingestion: Grade 2; oral LD ₅₀ = 1,000 mg/kg (rat)	
3.8 Toxicity by Inhalation: Currently not available.	
3.9 Chronic Toxicity: Currently not available	
3.10 Vapor (Gas) Irritant Characteristics: Currently not available	
3.11 Liquid or Solid Characteristics: Currently not available	
3.12 Odor Threshold: Currently not available	
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
- 4.2 **Flammable Limits in Air:** Not flammable
- 4.3 **Fire Extinguishing Agents:** Not pertinent
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Currently not available
- 4.6 **Behavior in Fire:** Currently not available
- 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 **Stoichiometric 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:** Anhydrous grade dissolves with evolution of some heat.
- 5.2 **Reactivity with Common Materials:** Metals will slowly corrode in aqueous solutions.
- 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:**
555 ppm/168 hr/rock bass/killed/tap water
10,650 ppm/96 hr/sunfish/LD₅₀/fresh water
2,400 ppm/48 hr/marine fish/TL_m/sea 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:**
Bioaccumulation: 0
Damage to living resources: 0
Human Oral hazard: 1
Human Contact hazard: II
Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Anhydrous 90-97%; water solutions containing 51-86%
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open
- 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:** Not listed
- 8.2 **49 CFR Class:** Not pertinent
- 8.3 **49 CFR Package Group:** Not listed.
- 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:** 110.99 (solute)
- 9.3 **Boiling Point at 1 atm:** Not pertinent
- 9.4 **Freezing Point:** Not pertinent
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 2.15 at 20°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:** -292 Btu/lb = -162 cal/g = -6.79 X 10⁵ J/kg
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** 55 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
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

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	60.330		N		N		N
36	61.170		O		O		O
38	62.000		T		T		T
40	62.830		P		P		P
42	63.670		E		E		E
44	64.500		R		R		R
46	65.330		T		T		T
48	66.169		I		I		I
50	67.000		N		N		N
52	67.830		E		E		E
54	68.669		N		N		N
56	69.500		T		T		T
58	70.330		E		E		E
60	71.169		N		N		N
62	72.000		T		T		T
64	72.830						
66	73.669						
68	74.500						
70	75.330						
72	76.169						
74	77.000						
76	77.830						
78	78.669						
80	79.500						
82	80.330						
84	81.169						