

ZINC CHLORIDE

ZCL

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Solid White solid Odorless
	Solid sinks and mixes with water.
<p>Keep people away. Avoid contact with solid and solution. Notify local health and pollution control agencies. Protect water intakes.</p>	
Fire	Not flammable.
Exposure	CALL FOR MEDICAL AID. SOLID OR SOLUTION Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. 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 and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
Water Pollution	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

<p>1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge Chemical and Physical Treatment: Absorb</p>	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: ZnCl₂ 2.3 IMO/UN Designation: 8.0/1840 2.4 DOT ID No.: 2331 2.5 CAS Registry No.: 7646-85-7 2.6 NAERG Guide No.: 154 2.7 Standard Industrial Trade Classification: 52329</p>
<p>3. HEALTH HAZARDS 3.1 Personal Protective Equipment: Goggles or face shield. 3.2 Symptoms Following Exposure: Solid or water solution is astringent and can irritate the eyes. When ingested, can cause intoxication, severe irritation of stomach, nausea, vomiting, and diarrhea. 3.3 Treatment of Exposure: INGESTION: give large volumes of water and induce vomiting; repeat process; call a doctor. EYES: wash with water for at least 15 min. 3.4 TLV-TWA: 1 mg/m³ (fume) 3.5 TLV-STEL: 2 mg/m³ (fume) 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 3; LD₅₀ = 50 to 500 mg/kg 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Non-volatile 3.11 Liquid or Solid Characteristics: Solid irritates skin on prolonged contact. 3.12 Odor Threshold: Odorless 3.13 IDLH Value: 50 mg/m³ (fume) 3.14 OSHA PEL-TWA: 1 mg/m³ (fume) 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed</p>	

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: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: Not flammable
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not flammable
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: No reaction
5.2 Reactivity with Common Materials: No reaction
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:
7.2 ppm/96 hr/medium bluegill/TL₅₀/fresh water
28 ppm/48 hr/zebrafish/TL₅₀/salt 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: 3
Human Oral hazard: 2
Human Contact hazard: 0
Reduction of amenities: 0

7. SHIPPING INFORMATION

- 7.1 Grades of Purity: Reagent; USP; technical; 50% solution in water
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Currently not available
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: Corrosive material
8.2 49 CFR Class: 8
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	3
Flammability (Red)	0
Instability (Yellow)	0

8.6 EPA Reportable Quantity: 1,000 pounds
8.7 EPA Pollution Category: C
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 136.28
9.3 Boiling Point at 1 atm: Very high
9.4 Freezing Point: 541°F = 283°C = 556°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 2.91 at 25°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: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: 40.6 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	346.799		N		N		N
36	351.699		O		O		O
38	356.599		T		T		T
40	361.500		P		P		P
42	366.299		E		E		E
44	371.199		R		R		R
46	376.099		T		T		T
48	381.000		I		I		I
50	385.799		N		N		N
52	390.699		E		E		E
54	395.599		N		N		N
56	400.500		T		T		T
58	405.399		P		P		P
60	410.199		E		E		E
62	415.099		R		R		R
64	420.000		T		T		T
66	424.899						
68	429.699						
70	434.599						
72	439.500						
74	444.399						
76	449.299						
78	454.099						
80	459.000						
82	463.899						
84	468.799						