

# ZINC HYDROSULFITE

ZHS

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Zinc dithionite	Amorphous solid White Slight SO#M2 odor
Mixes with water.	
<p>Keep people away. Avoid contact with solid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Notify local health and pollution control agencies. Protect water intakes.</p>	
<b>Fire</b>	Not flammable.
<b>Exposure</b>	<p>CALL FOR MEDICAL AID. DUST Irritating to eyes, nose, and throat. Move to fresh air.</p> <p>SOLID Irritating to skin and eyes. If swallowed, will cause nausea and 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 plenty of water or milk and have victim induce vomiting.</p>
<b>Water Pollution</b>	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><b>1. CORRECTIVE RESPONSE ACTIONS</b> Dilute and disperse Stop discharge</p>	<p><b>2. CHEMICAL DESIGNATIONS</b> 2.1 CG Compatibility Group: Not listed. 2.2 Formula: ZnS<sub>2</sub>O<sub>4</sub> 2.3 IMO/UN Designation: 9/1931 2.4 DOT ID No.: 1931 2.5 CAS Registry No.: 7779-86-4 2.6 NAERG Guide No.: 171 2.7 Standard Industrial Trade Classification: 52344</p>
<p><b>3. HEALTH HAZARDS</b></p> <p>3.1 <b>Personal Protective Equipment:</b> Dust mask, chemical workers goggles, and rubber gloves. 3.2 <b>Symptoms Following Exposure:</b> INHALATION: Irritation of nose and throat. EYES: Mild irritant. SKIN: Irritant. INGESTION: Nausea and vomiting. 3.3 <b>Treatment of Exposure:</b> Call a physician. INHALATION: Move to fresh air. EYES: Wash with plain water or 2% solution of sodium bicarbonate. SKIN: Wash with soap and water. INGESTION: Dilute chemical and empty stomach with an emetic. 3.4 <b>TLV-TWA:</b> Not listed. 3.5 <b>TLV-STEL:</b> Not listed. 3.6 <b>TLV-Ceiling:</b> Not listed. 3.7 <b>Toxicity by Ingestion:</b> Grade 2; LD<sub>50</sub> = 0.5 to 5 g/kg. 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Currently not available. 3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Not pertinent. 3.11 <b>Liquid or Solid Characteristics:</b> Currently not available. 3.12 <b>Odor Threshold:</b> Currently not available. 3.13 <b>IDLH Value:</b> Not listed. 3.14 <b>OSHA PEL-TWA:</b> Not listed. 3.15 <b>OSHA PEL-STEL:</b> Not listed. 3.16 <b>OSHA PEL-Ceiling:</b> Not listed. 3.17 <b>EPA AEGL:</b> Not listed.</p>	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
Not flammable
- 4.2 **Flammable Limits in Air:** Not pertinent
- 4.3 **Fire Extinguishing Agents:** No fire hazard.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Decomposes giving off irritating SO<sub>2</sub>.
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Not pertinent
- 4.8 **Electrical Hazards:** Currently not available
- 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:** Contact with water liberates irritating SO<sub>2</sub> gas.
- 5.2 **Reactivity with Common Materials:**  
Oxidizing agents and acids
- 5.3 **Stability During Transport:** Hygroscopic should be protected from moisture and heat.
- 5.4 **Neutralizing Agents for Acids and Caustics:** Neutralize with soda ash and NaOH.
- 5.5 **Polymerization:** Does not polymerize.
- 5.6 **Inhibitor of Polymerization:** Not pertinent

## 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
96-hour TL<sub>50</sub> = 4.7 to 35.5 mg Zn/l  
96-hour TL<sub>50</sub> values in soft water: 1 mg Zn/l for Fathead minnow 6 mg Zn/l for Goldfish
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** 62.4 mg Zn/l will cause a 50% drop in the 5 day BOD.
- 6.4 **Food Chain Concentration Potential:** Zn may accumulate slightly.
- 6.5 **GESAMP Hazard Profile:** Not listed

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 86% to 88% ZnS<sub>2</sub>O<sub>4</sub>
- 7.2 **Storage Temperature:** Cool
- 7.3 **Inert Atmosphere:** Currently not available
- 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:** Class 9
- 8.2 **49 CFR Class:** 9
- 8.3 **49 CFR Package Group:** III
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** 1000 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:** 193.45
- 9.3 **Boiling Point at 1 atm:** Currently not available
- 9.4 **Freezing Point:** Currently not available
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** Currently not available
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** Currently not available
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
- 9.12 **Latent Heat of Vaporization:** Currently not available
- 9.13 **Heat of Combustion:** Currently not available
- 9.14 **Heat of Decomposition:** Currently not available
- 9.15 **Heat of Solution:** Currently not available
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** Currently not available
- 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
	C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E

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
68	28.000		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E