

# MATERIAL SAFETY DATA SHEET

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No. 96

ZINC SULFATE

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SECTION I. MATERIAL IDENTIFICATION				
<p>MATERIAL NAME: ZINC SULFATE                      DESCRIPTION: Anhydrous (1:1) zinc salt of sulfuric acid. This material is also available as mono- and hepta-hydrates.                      OTHER DESIGNATIONS: Zinc Vitriol, White Vitriol, ZnSO<sub>4</sub> (CAS# 007 733 020), ZnSO<sub>4</sub>·7H<sub>2</sub>O (CAS# 007 446 200)                      MANUFACTURER: Available from several suppliers, including:                      ASRCO 120 Broadway New York, NY 10005 Phone: (212) 732-9500                      United Mineral &amp; Chemical Corp. 129 Hudson St., New York, NY 10013 Phone: (212) 966-4330</p>				
SECTION II. INGREDIENTS AND HAZARDS		x	HAZARD DATA	
Zinc Sulfate Water*	56-100 0-44		No TLV Established  Zinc Sulfate Human, Oral, TDLo 45 mg/kg/7D-C TFX: G.I. 106 mg/kg TFX:SYS & BPR Rat, Oral LDLo 2200 mg/kg	
*Water present as a hydrate. (See Sect. III & V)				
SECTION III. PHYSICAL DATA				
	Anhydrous	Monohydrate	Heptahydrate	
Specific gravity, 25/4 C -----	3.54	--	1.96	
Water solubility at 20 C -----	Soluble	Soluble	Soluble	
Formula or Molecular Weight -----	161.4	179.4	287.6	
Melting point, deg C -----	dec >600	--	100	
Dehydration, deg C -----	--	>238 (-H <sub>2</sub> O)	280 (-7H <sub>2</sub> O)	
Appearance & Odor: Colorless or white, metallic taste, odorless	crystals	powder/granules (free flowing)	crystals or powder/granules	
SECTION IV. FIRE AND EXPLOSION DATA			LOWER	UPPER
Flash Point and Method	Autoignition Temp.	Flammability Limits In Air		
Nonflammable				
<p>Extinguishing Media: Use that which is appropriate for the surrounding fire. Use of dry chemical or carbon dioxide has been recommended. Material dissolves in water to produce an acidic solution.                      Sealed containers of this material may rupture from decomposition pressure at high temperature. (Hydrated materials will generate pressure at lower temperatures.)                      Firefighters should wear self-contained breathing apparatus when this material is involved in a fire situation. (See Sect V).</p>				
SECTION V. REACTIVITY DATA				
<p>This material is stable in closed containers under normal storage and handling. It does not polymerize. Hydrated salts will lose water on heating (See Sect. III).                      Zinc sulfate hydrolyzes in water, producing an acidic solution which can be corrosive.                      Thermal degradation above 600 C will produce oxides of sulfur and zinc oxide fume.</p>				

## SECTION VI. HEALTH HAZARD INFORMATION

TLV (See Section II)

The acidity of this material can be a contact hazard. Excessive inhalation of dust or solution mist can irritate the mucous membranes of the upper respiratory tract & lung. Repeated or prolonged contact of this material or its solutions with the skin is irritating and can be damaging. A fatality has been reported after ingestion of 10 grams. Thermal degradation products of  $ZnSO_4$  ( $ZnO$  fume and sulfur oxides) can be an inhalation hazard.

## FIRST AID:

Eye Contact: Flush eyes with running water for 15 minutes. Get medical help.

Skin Contact: Remove contaminated clothing. Wash with running water, then with soap and water. Get medical help if irritation persists or if large skin area affected.

Inhalation: Remove to fresh air. Keep at rest. Get medical help.

Ingestion: Contact physician. Give water or milk to drink to dilute. Gastric lavage indicated if spontaneous vomiting has not occurred.

Physician note: Antidote: Calcium disodium edatate. Treatment for hypotension has been recommended.

## SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Notify safety personnel of large leaks or spills. Clean-up personnel need protection against inhalation and contact. Provide ventilation. Avoid dusting or misting conditions in clean-up. Pick up solids and place in suitable container for recovery or disposal. Cover spilled solution with soda ash or sodium bicarbonate; scoop up slurries for disposal.

DISPOSAL: Neutralize with soda ash or sodium bicarbonate for disposal. Bury in approved landfill. Follow Federal, State, and Local regulations.

EPA (CWA) "RQ" is 1000 lb (44FR No. 169, p 50778).

## SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide local ventilation for point sources of dust or mist. Ventilation should be sufficient to prevent any discomfort for workers. Where dust or mist concentration may be excessive, use NIOSH approved respirator for dust or acid mist, respectively. (Supplier recommends respirator use when handling bulk solids or bulk solutions.) Use safety goggles where dust or mist may be present. Use rubber gloves to prevent skin contact. An apron or other protective clothing should be used as appropriate for working conditions to minimize skin contact. Provide eyewash station and washing facilities near handling and use area. Safety shower may be needed where bulk solutions are prepared or used.

## SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in tightly closed, moisture-impervious containers in a dry, well ventilated area. The acid corrosion resistance of containers and facilities for the use of this material should be considered.

DOT ID No. UN9161

DATA SOURCE(S) CODE: 1, 4-7, 10, 39, 49

APPROVALS: MIS  
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