

Material Safety Data Sheet

Substance Identification							
Identity:	Zinc Sulfate Monohydrate		CAS #:	7446-19-7			
Trade Names:			Emergency:	Chemtrec 1-800-424-9300			
Components and Contaminants							
Chemical Name:	CAS #	OSHA PEL	ACGIH TLV	Percent			
Zinc Sulfate Monohydrate	7446-19-7	---	---	85-99% ZnSO ₄ •H ₂ O			
Magnesium Sulfate	7487-88-9	---	---	0-2% MgSO ₄			
Particles not otherwise Regulated (total) (respirable fraction)		15 mg/m ³ 5 mg/m ³	10 mg/m ³ (TWA) 3 mg/m ³ (TWA)				
Physical Data							
Boiling Point:	NA	Specific Gravity (H₂O=1):	3.28				
Vapor Pressure (mm/Hg):	NA	Melting Point: (decomposes)	NA				
Vapor Density (Air=1):	NA	Evaporation Rate (Butyl Acetate=1):	NA				
Solubility in Water:	50% (by weight)						
Appearance and Odor:	White crystals, no odor.						
Fire and Explosion Hazard Data							
Flash Point:	Not combustible						
Flammable Limits:	LEL NA	UEL NA					
Extinguishing Media:	Any suitable means to extinguish surrounding fire. CO ₂ and dry chemical are preferred.						
Special Fire Fighting Procedures:	In the event of fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.						
Unusual Fire and Explosion Hazards:	Not combustible.						
Reactivity Data							
Stability:	Stable under ordinary conditions of use and storage.						
Conditions to Avoid:	Excessive heat, humidity, and exposure to incompatibles.						
Incompatibility (materials to avoid):	Strong oxidizers, alkali metals and sulfur dioxide. Dissolves readily in water. Solutions are corrosive to mild steel.						
Hazardous Decomposition or Byproducts:	Thermal decomposition may release hazardous oxides of zinc and sulfur.						
Hazardous Polymerization:	Will not occur.						
Health Hazard Data							
Route of Entry:	INHALATION: Can result in irritation of the upper respiratory tract. SKIN: Can cause irritation, redness and pain INGESTION: Can cause gastrointestinal disturbances. EYES: Can cause severe eye irritation and corneal burns.						
Health Hazards (Acute and Chronic):	Acute exposure can cause skin, eye and respiratory irritation. Chronic exposure by prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated exposure to dust may cause runny nose, ulceration and perforations of the nasal septum, irritation of the mucous membranes and reflex bronchoconstriction. Prolonged or repeated eye contact may cause conjunctivitis.						
Carcinogenicity:	NTP: No	IARC Monographs: No					
Signs and Symptoms of Exposure:	Symptoms caused by inhalation may include coughing, sore throat, and shortness of breath. Symptoms caused by Ingestion may include burning pain in mouth and throat, fever, nausea and violent vomiting with abdominal pain. Symptoms caused by eye contact may include burning pain and redness.						

Health Hazard Data (cont.)

Aggravation of Pre-existing Conditions:	Persons with impaired respiratory function may be more susceptible to the effect of this substance.
Emergency and First Aid Procedures:	IF INHALED , remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician. IN CASE OF SKIN CONTACT , wash affected area thoroughly with soap & water. Remove contaminated clothing and launder before reuse. If irritation should develop, get medical attention. IN CASE OF EYE CONTACT , flush eyes immediately with copious amounts of water for at least 15 minutes with eyelids spread apart. Washing within one minute is essential to achieve maximum effectiveness. Get immediate medical attention after flushing. IF INGESTED , induce vomiting immediately by giving two glasses of water or milk and sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician, immediately.

Precautions for Safe Handling and Use

Material Release or Spill Precautions:	Should a spill occur, ventilate area. Clean-up personnel require respiratory protection. Recover uncontaminated material for use. Vacuum or sweep remaining material, keeping dust to a minimum. Zinc Sulfate has a RQ of 1000 lb (454 Kg).
Waste Disposal Method:	Dispose of in accordance with applicable federal, state and local environmental and regulatory requirements.
Handling and Storing Precautions:	Store in closed containers in a cool, dry, well-ventilated area away from incompatible materials.
Other Precautions:	Observe good personal hygiene. Wash after handling.

Control Measures

Respiratory Protection:	Use NIOSH approved particulate respirator if dust generation occurs or is anticipated. OSHA standard 1910.134 or ANSI Z88.2-1980 specifications are recommended.
Ventilation:	A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.
Protective Gloves:	Yes, rubber or plastic impervious gloves.
Eye Protection:	Yes, splash goggles and/or face shield.
Other Protective Clothing or Equipment:	Use other protective equipment when necessary in order to avoid prolonged exposure to skin.
Work and Hygienic Practices:	Observe good personal hygiene. Wash after handling.

SARA Title III Section 313 Supplier Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372.45:

<u>Component</u>	<u>CAS #</u>	<u>% by Weight</u>
Zinc Compound	7446-19-7	76% - 88% ZnSO ₄

This information must be included in all MSDS's that are copied and distributed for this material.

Transportation Information

DOT Shipping Name:	RQ, Environmentally Hazardous Substance, Solid, n.o.s., (Zinc Sulfate)
DOT Hazard Class: 9	Hazardous Ingredients: Zinc Sulfate (when \geq 1000 lb RQ)
Identification Number: UN 3077	Packing Group: III
Additional Marking: None	
During an emergency involving this material, DOT Emergency Response Guide No. 171 is recommended.	