



MATERIAL SAFETY DATA SHEETS

SECTION I

PRODUCT AND COMPANY IDENTIFICATION

Product: Zinc sulfate heptahydrate
This MSDS is valid for all grades and catalog #'s

Synonyms: Not available.

Formula: ZnSO₄.7H₂O

Manufacturer: PHARMCO-AAPER
58 Vale Road
Brookfield, Connecticut 06804, USA
Phone (203) 740-3471
Fax (203) 740-3481

1101 Isaac Shelby Drive
Shelbyville, KY 40065
Phone (502) 633-0650
Fax (502) 633-0685

Emergency Contact:
CHEMTREC 1-800-424-9300

SECTION II

COMPOSITION /INFORMATION ON INGREDIENTS

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
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100	Zinc sulfate hepta	7446-20-0	Not available	ORAL (LD50): Acute: 1260 mg/kg [Rat]. 200 mg/kg [Mouse].
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SECTION III

HAZARDS IDENTIFICATION

Potential Acute Health Effects: Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

SECTION IV

FIRST AID

Obtain medical attention for all cases of over-exposure.

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Hazardous Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Hazardous Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Hazardous Ingestion: Not available.

SECTION V

FIRE FIGHTING MEASURES

Fire:

Flammability of the Product: Non-flammable.

Auto-Ignition temperature: Not applicable.

Flash point: Not applicable.

Flammable limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards: Not applicable.

Explosion Hazards: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Extinguishing Media: Not applicable.

Special Information: Not available.

SECTION VI

SPILL/ACCIDENTAL RELEASE MEASURES

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

SECTION VII HANDLING AND STORAGE

Precautions: Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

SECTION VIII EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

SECTION IX PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance: Solid. (Granular solid. Crystals solid. Granular crystalline powder)

Molecular Weight: 179.43 g/mole

Odor: Odorless.

Taste: Astringent. Metallic.

Color: Not available.

pH (1% Solution in Water): Not available.

Boiling Point: Not available.

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: 1.97 (Water = 1)

Vapor Pressure (mm Hg): Not applicable.

Vapor Density (Air=1): Not available.

Volatility: Not available.

Odor Threshold: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Water/Oil Dist. Coefficient: Not available.

Ionicity (in water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water. Practically insoluble in alcohol. Solubility in Water: 1 g/ 0.6 ml water
Solubility in Glycerol: 1 g/2.5 ml Glycerol.

SECTION X STABILITY/REACTIVITY INFORMATION

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibilities: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Information: Loses all water at 280 deg. C.. Decomposition above 500 deg. C. Incompatible with lead, calcium, strontium salts, borax, alkali carbonates and hydroxides, silver protein and tannins.

SECTION XI TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 200 mg/kg [Mouse].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Information on Toxicity to Animals: Not available.

Special Information on Chronic Effects/Toxicity on Humans: Acute Potential Health Effects: Skin: Can cause skin irritation. Eyes: Causes moderate eye irritation. Inhalation: Dust can cause respiratory tract irritation. Symptoms may include coughing, shortness of breath. Ingestion: It may be harmful if swallowed. Ingestion might produce gastrointestinal symptoms, including abdominal cramps, nausea, diarrhea, hyper motility, and vomiting. As with other soluble zinc salts, it may hydrolyze into acid and may cause severe irritation of the mouth, throat, It may also affect the cardiovascular system (increased pulse rate, hypotension), behavior (ataxia, somnolence, coma), and cause pulmonary edema and may cause pancreatitis, and kidney damage. Chronic Potential Health Effects: Chronic exposure via skin contact or inhalation may produce dermatitis and respiratory tract irritation. If the monohydrate liberates fumes, metal fume fever might occur. (Metal fume fever is a flu-like syndrome consisting of fever, aches and pains, labored breathing, headache, and sweating. Symptoms generally appear a few hours after exposure and subside within 48 hours. Prolonged or repeated ingestion may cause hyper motility and diarrhea, and may also affect the blood (normocytic anemia, agranulocytosis, microcytosis with or without anemia), liver (jaundice, hepatotoxicity), metabolism (calcium absorption, weight loss), kidneys (oliguria, renal failure), behavior/central nervous system (central nervous system depression, tremors and paralysis of extremities).

SECTION XII ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Information on Products of Biodegradation: Not available.

SECTION XIII DISPOSAL CONSIDERATIONS

Waste Disposal: Recycle to process, if possible. Consult your local or regional authorities.

SECTION XIV TRANSPORTATION INFORMATION

DOT Classification: DOT Not a DOT controlled material (United States).

UN: Not applicable.

Special Provisions for Transport: Not applicable.

SECTION XV REGULATORY INFORMATION

Federal and State Regulations: Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **Zinc sulfate monohydrate**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: **No products were found.**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: **No products were found.**

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada) as stated by the Canadian Centre for Occupational Health and Safety (CCOHS), and the Commission de la sante et de la securite du travail (CSST)
DSCL (EEC): R22- Harmful if swallowed. R41- Risk of serious damage to eyes. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

References: Not available.

Other Special Considerations: Major Uses: Reagent in analytical chemistry; mordant in calico-printing; preserving wood and skins; manufacture of lithopone and zinc salts; electrodepositing; astringent; depressant in froth flotation, e.g., for lead-zinc ores; component of spinning bath in manufacturing of rayon; chemical intermediate for carbonate fungicides, e.g., Zineb; manufacture of zinc metal or other zinc compounds; component of zinc plating baths; chemical for water treatment; component of cosmetics; reagent for paper bleaching; manufacture of glue; accelerating agent in dental impression material; agent for textile dyeing; printing preservative for wood and hides; fireproofing agent;

The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.