



NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least				Not regulated by the U.S. DOT as a hazardous material in quantities less than 1,000 lbs. See Section 14 for additional information.
1	Slight	1	Health		
2	Moderate	0	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
Product Name: Zinc Sulfate 35.5% EPA Registration #: Exempt Product ID/Unity #: 10122974, 10122975 Common Name: Zinc sulfate Chemical Description: Zinc sulfate monohydrate Recommended Uses: Fertilizer product – See product label for directions for use. Restrictions for Use: See product label for any potential restrictions.	MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	
FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours)	

SECTION 2: HAZARDS IDENTIFICATION			
EMERGENCY OVERVIEW: White or colorless, odorless granules. Causes eye irritation. Harmful if swallowed.			
POTENTIAL HEALTH EFFECTS:			
Eyes: Exposure to dust causes moderate eye irritation. Skin: Contact may cause brief irritation. Inhalation: Inhalation of dust may cause temporary irritation of the upper respiratory tract. Ingestion: Harmful if swallowed. Ingestion may cause strong stomach cramps and diarrhea and may induce spontaneous vomiting. Preexisting Conditions: Preexisting respiratory conditions may be aggravated by exposure to dusts. Chronic Health Effects: None known.			
Carcinogenicity	NTP: Not listed	IARC: Not listed	OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Eye Irritation Category 2A; Acute Oral Toxicity Category 4			
SIGNAL WORD: WARNING			
HAZARD STATEMENTS: Causes serious eye irritation. Harmful if swallowed.			
Percent of product with unknown toxicity: 0.0%			
PRECAUTIONARY STATEMENTS:			
Prevention:	Wash hands thoroughly after handling. Wear eye and face protection. Do not eat, drink or smoke when using this product.		
Response:	If in eyes: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If Swallowed: Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice. Rinse mouth.		
Storage:	See Section 7 for storage information.		
Disposal	Dispose of contents/container in accordance with Federal, state and local regulations.		

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS		
Ingredient	% (wt)	CAS Reg. #
Zinc sulfate monohydrate	100.0%	7446-19-7
*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(j).		
See Section 8 for exposure limits.		

SECTION 4: FIRST AID MEASURES	
Inhalation:	Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.
Ingestion:	Seek medical attention or call a poison control center for treatment advice. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Eyes:	Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if eye irritation persists.
Skin:	Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if skin irritation persists.

SECTION 5: FIRE FIGHTING MEASURES	
Suitable Extinguishing Media:	Zinc sulfate does not burn or support combustion. Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media:	Water spray may be ineffective in fighting fire
Special Fire Fighting Procedures:	Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind.
Hazardous Combustion Products:	Toxic fumes of sulfur dioxide and zinc may result from combustion.
Unusual Fire and Explosion Hazards:	None known

SECTION 6: ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Environmental Precautions:	Keep spilled product and any rinse water from entering sewers or waterways. This product can pose a threat to the environment. Contamination of soil and water should be prevented.
Methods for Containment:	Contain spilled product by sweeping up if a small spill or by diking area with sand or earth if a large spill.
Methods for Clean-up:	Avoid dust formation. Vacuum, scoop or sweep up material and place in a container for disposal. If product is uncontaminated, spilled material may be applied at the rate recommended on the label. Never return spills to original containers for re-use. After removal of spilled product, flush contaminated area thoroughly with water.
Other Information:	None known

SECTION 7: HANDLING AND STORAGE	
Handling:	Avoid breathing dust. Use only outdoors or in a well-ventilated area. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.
Storage:	Store in a dry area away from children, feed and food products. Store away from incompatible materials. Protect packaging from physical damage. Keep containers closed when not in use. Heated storage may be necessary to prevent crystallization.
Minimum Storage Temperature:	70°F (below this temperature crystallization can occur)
Other Precautions:	Consult Federal, state and local laws and regulations pertaining to storage.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION			
Exposure Guidelines			
Component:	OSHA PEL	ACGIH TLV	NIOSH REL
Particulates Not Otherwise Regulated	15 mg/m ³ (total dust) 5 mg/m ³ (respirable)	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	
Respiratory Protection: If dust concentration exceeds permissible levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for general particulates.			
Engineering Controls: Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.			
Protective Gloves: Wear chemically protective gloves to prevent exposure to skin.			
Eye Protection: Wear chemical goggles or safety glasses and full face shield. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily accessible to the work area.			
Other Protective Clothing or Equipment: Wear long-sleeve shirt, long pants and shoes plus socks to prevent skin contact.			
Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.			

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES			
Physical State:	Solid	Specific Gravity (H₂O=1):	3.28 – 3.54
Vapor Pressure (mm Hg):	Negligible @ 68°F (20°C)	Density (lbs/gallon):	Not applicable
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	70°F (21°F) (crystallization)
Solubility in Water (wt %):	53.8 g/100 ml @ 68°F (20°C)	Boiling Point/Range:	Not determined
Viscosity:	Not applicable	pH (10% solution):	5.0
Appearance and odor:	White or colorless, odorless granules	Flash Point:	Non-flammable

SECTION 10: STABILITY AND REACTIVITY
Reactivity: None known
Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions.
Possibility of Hazardous Reactions: Will not occur.
Conditions to Avoid: Excessive heat which may lead to decomposition.
Incompatible Materials: None known
Hazardous Decomposition Products: In a fire, toxic sulfur dioxide and zinc compounds may be released.

SECTION 11: TOXICOLOGICAL INFORMATION	
<u>ACUTE TOXICITY</u>	
Eye Effects:	Exposure to dust causes moderate eye irritation. Eye contact with solutions (>1%) may cause the appearance of white flecks on the lens of the eye.
Skin Effects:	LD50 >2,000 mg/kg; Not a skin sensitizer.
Acute Inhalation Effects:	LC50 is not determined. Acute inhalation may result in irritation but is not expected to cause significant harmful effects. Symptoms may include discomfort, coughing, tingling sensation, sneezing and/or shortness of breath and wheezing.
Acute Oral Effects:	LD50 = 1,538 mg/kg (rat)
Specific Target Organ Toxicity:	None known
<u>CHRONIC TOXICITY</u>	
Chronic Effects:	None known
Carcinogenicity:	No components are anticipated to have carcinogenic effects.
Mutagenicity:	No components are anticipated to have mutagenic effects.
Teratogenicity:	No components are anticipated to have teratogenic effects.
Reproductive Toxicity:	No components are anticipated to have effects on the reproductive system or fertility.

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POTENTIAL HEALTH EFFECTS:

Eyes: Exposure to dust causes moderate eye irritation.

Skin: Contact may cause brief irritation.

Inhalation: Inhalation of dust may cause temporary irritation of the upper respiratory tract.

Ingestion: Harmful if swallowed. Ingestion may cause strong stomach cramps and diarrhea and may induce spontaneous vomiting.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Very toxic to aquatic life with long lasting effects.

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity: Not available

Aquatic Invertebrate Acute Toxicity: Not available

Aquatic Plant Toxicity: Not available

Bird Acute and Prolonged Toxicity: Not available

Honeybee Toxicity: Not available

ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility: Not available

Persistence and degradability: Not available

Bioaccumulative Potential: Not available

Other adverse effects: Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.

Container: Ensure all product has been emptied from the sack/bag. Dispose of emptied container in accordance with applicable Federal, state and local laws and regulations.

RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORT INFORMATION

DOT: This product is not regulated as a hazardous material for ground shipment in quantities less than 1,000 lbs. For quantities of 1,000 lbs. or greater:
(Ground) UN3077, Environmentally Hazardous Substance, Solid, N.O.S. (zinc sulfate), 9, PG III, RQ

IMDG: Not determined
(Sea)

IATA: Not determined
(Air)

TDG: Not determined
(Canada)

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: All components are listed or are exempt from listing on the TSCA inventory.

SARA Title III Information:

Section 302 - Extremely hazardous substances: None listed

Section 311/312 - Hazard Categories: Immediate (Acute), Delayed (Chronic)

Section 313 - The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:

Zinc sulfate (CAS # 7446-19-7)

CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):

Zinc sulfate (CAS # 7446-19-7) has an RQ of 1,000 lbs.

California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer and/or reproductive harm.

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U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Zinc sulfate	7446-19-7	MA, NJ, PA

Canadian Domestic Substances List: All components are on the DSL.

WHMIS Classification: This product is not registered for use in Canada. WHMIS Classification is not determined.

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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