

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300

| Section 1—Chemical Product and Company Identification | | | |
|---|---|---------------------|---|
| Product Name: | AgriSolutions Zinc Sulfate 35.5% | | |
| Common Name: | Zinc Sulfate Monohydrate, ZnSO ₄ · H ₂ O | | |
| Chemical Description: | Zinc micronutrient, fungicide | | |
| Manufacturer's Name: | WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589 | | Medical Emergency Telephone Number: 1-877-424-7452 |
| MSDS Preparation Date: | 2/20/2009 | MSDS Revision Date: | First draft |

| Section 2—Composition Information on Ingredients | | | | | NFPA HAZARD RATING: | | | |
|--|---------|---------------|---|---|---------------------|----------|---|--------------|
| Ingredient | % wt | CAS Reg. # | OSHA PEL | LD ₅₀ / LD ₅₀ Species/Route | 0 | Least | | |
| Zinc Sulfate Monohydrate | 97.5 | 7446-19-7 | 15 mg/m ³ (total dust), 5 mg/ m ³ (respirable part) | LD ₅₀ , oral, rat: 1710 mg/kg as anhydrous | 1 | Slight | 2 | Health |
| | | | | | 2 | Moderate | 0 | Flammability |
| | | | | | 3 | High | 0 | Reactivity |
| | | | | | 4 | Severe | | |

| Section 3—Hazards Identification |
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| Emergency Overview: Colorless, odorless granules. Not flammable or explosive, but will decompose in extreme heat to produce toxic sulfur oxide gas and zinc oxide fume. The granular solid is relatively non-toxic to humans and poses little immediate hazard to emergency response personnel but is freely soluble in water and can pose a threat to watercourses. CAUTION: Keep out of reach of children. Route(s) of Entry: Eyes, Inhalation, Skin, and Ingestion. |
| Health Hazards (Acute and Chronic): Inhalation: May irritate respiratory tract. If dusty it may cause breathing difficulty and irritation of mucous membranes. Eyes: May irritate eyes. Skin: May irritate skin. Prolonged or repeated exposure may lead to reddening of skin, rash, dermatitis, or other skin reactions. Ingestion: Harmful if swallowed. Chronic hazards include stomach irritation, abdominal cramps and nausea. |
| Carcinogenicity: Not a carcinogen according to NTP, IARC, OSHA, ACGIH and EU. |
| Potential Environmental Effects: This product is highly water soluble and is toxic to fish and other aquatic life. It can also be toxic to plant life and other terrestrial organisms at elevated concentrations in soils. |

| Section 4—First Aid Measures |
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| Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. |
| Ingestion: Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 2-8 oz. of water. Zinc sulfate is an emetic and may cause vomiting. If vomiting occurs naturally, have victim rinse mouth with water again. Obtain medical advice and bring copy of this MSDS. |
| Eyes: Do not allow victim to rub eyes. Let the eyes water naturally for a few minutes. If particle/dust does not dislodge, flush with lukewarm gently-flowing water for 5 minutes or until particle/dust is removed, while holding eyelids open. If irritation persists, obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye. |
| Skin: Remove contaminated clothing, shoes, and items such as watchbands or belts. Quickly and gently blot or brush away excess chemical. Wash gently and thoroughly with lukewarm gently-flowing water and non-abrasive soap for 5 minutes. If irritation persists, repeat flushing. Completely decontaminate clothing, shoes and other items before reuse or else discard. |

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5—Fire and Explosion Hazard Data

Flash Point: Not applicable **Flammable Limits LEL:** Not applicable **UEL:** Not applicable

Extinguishing Media: Use any means of extinction appropriate for the surrounding fire conditions such as water spray, carbon dioxide, dry chemical or foam.

Special Fire Fighting Procedures: As with any fire, fire fighters should be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full facepiece mask.

Do not use water directly on material. Do not allow water run-off to enter sewers or watercourses.

Hazardous Combustion Products: Toxic fumes of sulfur dioxide may results from combustion.

Unusual Fire and Explosion Hazards: Zinc sulfate does not burn or support combustion.

Section 6—Accidental Release Measures

Procedures For Cleanup: Stop release if possible to do so safely. Contain spill, isolate hazard area, and deny entry. Sweep up or vacuum.

Personal Precautions: Gloves and coveralls of other protective clothing are recommended for persons responding to an accidental release. Close-fitting safety goggles may be necessary in some circumstances to prevent eye contact.

Containment and Disposal: Place contaminated material in suitable, labeled containers for final disposal. Dispose of waste material consistent with the requirements of waste disposal authorities.

Section 7—Precautions for Safe Handling and Use

Precautions to Be Taken in Handling and Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from physical damage. Keep container closed when not in use. Practice good housekeeping and avoid generating dust and the release of dust into the workplace.

Other Precautions: Consult Local, State, and Federal regulations pertaining to storage and disposal.

Section 8—Control Measures/Personal Protection

Respiratory Protection: Use appropriate NIOSH-approved respiratory protection equipment (42CFR84 Class N, R, or P-95 particulate filter cartridge).

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations well below occupational exposure limits for general Particulates, Not Otherwise Specified (PNOS).

Protective Gloves: Wear chemically protective gloves.

Eye Protection: Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices.

Other Protective Clothing or Equipment: Wear chemically protective coveralls or long-sleeved work clothes to prevent prolonged or repeated skin contact.

Work/Hygienic Practices: Never eat, drink, nor smoke in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9—Physical/Chemical Characteristics

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| Physical State: | Solid | Specific Gravity g/mL (H₂O=1): | 3.28 |
| Vapor Pressure (mm Hg): | Negligible at 20°C | Freezing Point: | Water loss at 238°C. Decomposition at 680°C. |
| Vapor Density (Air=1): | Not applicable | Boiling Point: | Not applicable |
| Solubility in Water (wt %): | 53.8 g in 100 mL at 20°C | pH (10% solution in water): | 5.0 |
| Appearance and odor: | Colorless, odorless granules. | | |

Section 10—Reactivity Data

Stability: This material is stable and not considered reactive under normal temperatures and pressures.

Chemical Incompatibilities: None have been identified.

Conditions to Avoid: Avoid excessive heat.

Hazardous Decomposition Products: High temperature conditions will generate zinc oxide fume which, on inhalation in sufficient quantity, can produce metal fume fever. Sulfur dioxide will also be generated and can cause respiratory distress.

Hazardous Polymerization: Hazardous polymerization or runaway reactions will not occur.

Section 11—Toxicological Information

Acute Eye Effects: Solid may cause local eye irritation, but does not cause tissue damage. Contact with solutions may cause irritation.

Acute Skin Effects: Dust or fume from burning may cause local irritation.

Acute Inhalation Effects: May result in irritation, but not significantly harmful. Symptoms may include discomfort, coughing, tingling sensations, sneezing and/or shortness of breath and wheezing. Zinc oxide fumes as a result of heating can result in metal fume fever. Symptoms appearing within 3-10 hours of exposure include immediate dryness and irritation of the throat, tightness of the chest and coughing followed by flu-like symptoms of fever, malaise, perspiration, frontal headache, muscle cramps, low back pain, occasionally blurred vision, nausea, and vomiting. The symptoms generally disappear within 24 to 48 hours of onset.

Acute Oral/Ingestion Effects: Ingestion of large doses can cause anemia and stomach symptoms. Ingestion in excessive quantities can irritate the stomach resulting in abdominal pain, nausea, diarrhea and spontaneous vomiting.

Chronic Effects: No significant chronic effects.

Carcinogenicity: Not listed as a carcinogen by OSHA, NTP, IARC, ACGIH, or EU.

Mutagenicity: Not determined

Teratogenicity: Not determined

Section 12—Ecological Information

Soil Absorption/Mobility: The mobility of zinc in soil and its degree of bioaccumulation is dependent on soil chemical conditions.

Ecotoxicological Information: May be toxic to aquatic organisms, especially fish, with water hardness, pH, and dissolved carbon levels being regulating factors.

Chemical Fate Information: Data not available.

Section 13—Disposal Considerations

Disposal: Do not wash down drain. Put uncontaminated material back into the process. Place contaminated material in suitable, labeled containers for disposal.

Disposal Regulatory Requirement: Follow applicable Federal, State, and Local regulations.

EPA Hazardous Waste: No

Section 14—Transport Information

Not regulated by Transport Canada. US DOT: Class 9, Packing Group III. Reportable Quantity=2816 pounds of product which contains 1000 pounds of zinc. US DOT Shipping Name: Environmentally Hazardous Substance, Solid, n.o.s. (contains zinc sulfate). US DOT Product ID #UN3077. Not a marine pollutant (US). Not regulated by IMO.

Section 15—Regulatory Information

INGREDIENTS LISTED ON TSCA INVENTORY: Yes

HAZARDOUS UNDER HAZARD COMMUNICATIONS STANDARD: No

CERCLA SECTION 103: Zinc sulfate. RQ=2816 pounds of product which contains 1000 pounds of zinc.

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| EPCRA: | Section 302 Extremely Hazardous Substance: No ingredients qualify. | Section 311/312 Hazard Categories: None. | Section 313 Toxic Release Inventory: Zinc compounds, CAS#7446-19-7, by wt. 92%. |
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CANADIAN: Ingredients listed on DSL: Yes. Not a controlled product by WHMIS Classification.

Section 16—Other

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