NFPA HAZARD RATING

0	Least		
1	Slight	**2**	**Health**
2	Moderate	**0**	**Flammability**
3	High	**1**	**Reactivity**
4	Severe		

U.S. TRANSPORT SUMMARY

See Section 14 for full information.

SECTION 1: IDENTIFICATION

Product Name: Max-In® Ultra ZMB or Max-In® Ultra ZMB Micronutrient Mix
EPA Registration #: Exempt
Product ID/Unity #: 10126413, 10126415, 10126418, 10136226, 10136887, 10136888, 1421429
Common Name: Micronutrient fertilizer
Chemical Description: Liquid fertilizer
Recommended Uses: Fertilizer product – See product label for full directions for use
Restrictions for Use: See product label for any potential restrictions on use.

Manufactured For:
WINFIELD SOLUTIONS, LLC
P. O. Box 64589
St. Paul, MN 55164-0589

MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs)

Non-Emergency Business Inquiries: 1-855-494-6343
Mon – Fri 8am – 5pm (Central Standard Time)

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Clear pink to tea brown liquid with slight organic odor. Causes serious eye and skin damage. Harmful if swallowed.

POTENTIAL HEALTH EFFECTS:
Eyes: Causes serious eye irritation with the potential for irreversible damage.
Skin: Causes serious skin irritation with the potential for irreversible damage.
Inhalation: Inhalation of mist may cause irritation of the upper respiratory tract.
Ingestion: Harmful if swallowed. May cause burning of the esophagus.
Preexisting Conditions: Preexisting respiratory conditions may be aggravated by exposure to mists.
Chronic Health Effects: Boric acid is a known reproductive toxicant. Prolonged or repeated oral exposure may have a negative impact on fertility and the reproductive system. Prolonged or repeated inhalation of product may have an impact on the central nervous system and/or lungs.

Carcinogenicity NTP: Not listed IARC: Not listed OSHA: Not listed

OSHA HCS 2012 CLASSIFICATION: Skin Corrosion/Irritation Category 1C; Eye Damage/Irritation Category 1; Toxic to Reproduction Category 2; Specific Target Organ Toxicant – Repeated Exposure Category 2

SIGNAL WORD: DANGER

HAZARD STATEMENTS:
Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child if ingested.
May cause damage to central nervous system and/or lungs through prolonged or repeated inhalation.

Percent of product with unknown toxicity: 0.07%

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PRECAUTIONARY STATEMENTS:

Prevention: Do not breathe mist. Wash hands thoroughly after use. Wear protective gloves, protective clothing, eye protection, and face protection. See Section 8 for additional information. Read product label before use. Do not handle until all safety precautions have been read and understood.

Response: **If swallowed:** Rinse mouth. Do NOT induce vomiting. **If on skin (or hair):** Take off immediately all contaminated clothing. Rinse skin with water/shower. **If inhaled:** Remove person to fresh air and keep comfortable for breathing. Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice. **If in eyes:** Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice.

Storage: Store in a secured, preferably locked, area.

Disposal Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Zinc sulfate	11.3%	7446-19-7
Organic acid	7.0 – 11.0%	77-92-9
Manganese sulfate	9.4%	10034-96-5
Boric acid	<0.6%	10043-35-3

*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(i).

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 immediately 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 immediately.

Skin: Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention immediately.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray or fog, foam, carbon dioxide, or dry chemical

Unsuitable Extinguishing Media: Water jet; Use water jet only to cool containers.

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: Carbon oxides, Sulfur oxides, and Nitrogen oxides; Toxic manganese, boron and zinc compounds may also be present upon decomposition.

Unusual Fire and Explosion Hazards: Closed containers may explode from vapor expansion in high heat. Contain run-off by diking to prevent contamination of water supplies.

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: Do not allow spilled product to enter sewers or waterways.

Methods for Containment: Contain spilled product by diking area with sand or earth.

Methods for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop, or sweep up material and place in a container for disposal. Do not place spilled material back in original container.

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Other Information: Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as the product contains zinc sulfate with a reportable quantity (RQ) of 1,000 lbs. See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE

Handling: Ensure adequate ventilation during handling and use. 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 cool, dry areas away from children, food and feed products in an area away from incompatible substances. Ensure that storage area is secured. Protect packaging from physical damage. Protect from exposure to fire. Maintain product above minimum storage temperature. Do not store in aluminum or metal vessels.
Minimum Storage Temperature: 40°F
Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component:	OSHA PEL	ACGIH TLV	NIOSH REL
Boric acid (CAS #10043-35-3)		2 mg/m3 (TWA); 6 mg/m3 (STEL)	
Manganese inorganic compounds	5 mg/m3 (CEIL)	0.2 mg/m3 TWA	1 mg/m3 TWA 3 mg/m3 ST

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If airborne concentrations exceed exposure limits, use a 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: This product can cause serious skin damage. Wear chemically protective gloves to prevent exposure to skin.
Eye Protection: To avoid contact with eyes, wear chemical safety goggles or safety glasses and full face shield. Contact lenses are not protective eye 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 chemically protective boots 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:	Liquid	**Specific Gravity (H_2O=1):**	1.29 (typical)
Vapor Pressure (mm Hg):	Not determined	**Density (lbs/gallon):**	10.7 – 10.8 lbs/gallon
Vapor Density (Air=1):	Not determined	**Melting Point/Freezing Point:**	Not determined
Solubility in Water (wt %):	100%	**Boiling Point/Range:**	Not determined
Viscosity:	Not determined	**pH:**	<2.0
Appearance and odor:	Clear pink to tea brown with slight organic odor; color darkens over time from pink to brown	**Flash Point:**	Does not flash

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: None known
Conditions to Avoid: Excessive heat
Incompatible Materials: Avoid mixing with calcium solutions, strong reducing agents and finely powdered metals.
Hazardous Decomposition Products: During prolonged exposure to high heat or fire conditions Carbon oxides, Sulfur oxides, and Nitrogen oxides may form; Toxic manganese, boron and zinc compounds may also be present upon decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects:	May cause serious and irreversible eye damage if exposed for more than a few minutes.
Skin Effects:	May cause serious and irreversible skin damage if exposed for more than a few minutes.
Acute Inhalation Effects:	May be harmful if inhaled.
Acute Oral Effects:	Estimated LD50 >8,000 mg/kg; May cause burning of the esophagus due to low pH of concentrate.
Specific Target Organ Toxicity:	Prolonged or repeated inhalation of product may have an impact on the central nervous system and/or lungs.

CHRONIC TOXICITY

Chronic Effects:	Prolonged or repeated inhalation of product may have an impact on the central nervous system and/or lungs.
Carcinogenicity:	No component is anticipated to have carcinogenic effects.
Mutagenicity:	No component is anticipated to have mutagenic effects.
Teratogenicity:	No component is anticipated to have teratogenic effects.
Reproductive Toxicity:	Boric acid is a known reproductive toxicant. Prolonged or repeated oral exposure may have a negative impact on fertility and the reproductive system.

POTENTIAL HEALTH EFFECTS:
Eyes: Causes serious eye irritation with the potential for irreversible damage.
Skin: Causes serious skin irritation with the potential for irreversible damage.
Inhalation: Inhalation of mist may cause irritation of the upper respiratory tract.
Ingestion: Harmful if swallowed. May cause burning of the esophagus.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Not determined

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity:	Not determined
Aquatic Invertebrate Acute Toxicity:	Not determined
Aquatic Plant Toxicity:	Not determined
Bird Acute and Prolonged Toxicity:	Not determined
Honeybee Toxicity:	Not determined

ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility:	Not determined
Persistence and degradability:	Not determined
Bioaccumulative Potential:	Not determined
Other adverse effects:	Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container: Triple rinse and recycle the container or dispose of in accordance with 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. If disposed of as purchased, waste code D002 applies.

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	UN3265, Corrosive liquid, acidic, organic, n.o.s. (carboxylic acid), 8, PG III
IMDG: (Sea)	UN3265, Corrosive liquid, acidic, organic, n.o.s. (carboxylic acid), 8, PG III
IATA: (Air)	UN3265, Corrosive liquid, acidic, organic, n.o.s. (carboxylic acid), 8, PG III
TDG: (Canada)	UN3265, Corrosive liquid, acidic, organic, n.o.s. (carboxylic acid), 8, PG III

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: All components are listed 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:
Manganese compounds 9.4%; Zinc compounds 11.30%

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 RQ =1,000 lbs (obtained in 820 gallons of product)

California Proposition 65: This product does not contain any chemicals known to the state of California to cause cancer and/or reproductive harm.

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

Chemical Name	CAS #	State(s)
Manganese sulfate (Manganese compounds)	10034-96-5	MN, NJ, PA
Zinc sulfate (Zinc compounds)	7446-19-7	MA, NJ, PA

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

WHMIS Classification: D2A (very toxic), E (corrosive material)

SECTION 16: OTHER

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