

NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least			Not regulated as a hazardous material for ground transport in quantities less than 480 gallons. (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:	Gravity® L 5-0-0 with Max-In® Technology
EPA Registration #:	Exempt
Product ID/Unity #:	1431552
Common Name:	Nitrogen fertilizer solution with micronutrients
Chemical Description:	Complexed fertilizer solution
Recommended Uses:	Fertilizer product – See product label for 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: Green to brown liquid with a faint, sweet odor. Causes skin irritation and serious eye irritation.			
POTENTIAL HEALTH EFFECTS:			
Eyes: Causes serious eye irritation with possible damage. Symptoms include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin: Causes skin irritation. Inhalation: Prolonged inhalation may be harmful. Ingestion: May cause gastric upset if swallowed. Preexisting Conditions: Preexisting respiratory conditions may be aggravated by exposure to mist. Chronic Health Effects: None known			
Carcinogenicity	NTP: Not listed	IARC: Not listed	OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Skin Irritation Category 2; Eye Irritation Category 1; Specific Target Organ Toxicity – Repeated Exposure – Category 2			
SIGNAL WORD: DANGER			
HAZARD STATEMENTS:			
Causes skin irritation. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.			
Percent of product with unknown toxicity: 5.72%			
PRECAUTIONARY STATEMENTS:			
Prevention: Wash hands thoroughly after handling. Wear protective gloves, eye and face protection. Do not breathe mist or vapor.			

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GRAVITY[®] L 5-0-0
with Max-In[®] Technology

Response: 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.
If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. Get medical attention if you feel unwell.

Storage: See section 7 for storage information.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Ferrous sulfate, monohydrate	10.0 - <20.0%	17375-41-6
Urea	10.0 - <20.0%	57-13-6
Manganese sulfate, monohydrate	1.0 - <3.0%	10034-96-5
Zinc sulfate, monohydrate	1.0 - <3.0%	7446-19-7
Copper sulfate, pentahydrate	<0.3%	7758-99-8
Disodium Octaborate	<0.2%	12008-41-2
Sodium molybdate, dehydrate	<0.1%	10102-40-6

*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 immediately.

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 occurs.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Foam, carbon dioxide (CO₂), dry chemical or water fog

Unsuitable Extinguishing Media: Water jet. Use of water jet as an extinguisher may spread the 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: During fire, gases hazardous to health such as sulfur oxides may be formed.

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: This product is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage system which lead to 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 copper sulfate with a reportable quantity (RQ) of 10 lbs and ferrous 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 original container only and in a cool, well-ventilated, dry place at temperatures between 40 and 95°F. Store in areas away from children, feed and food products.

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
Manganese sulfate, monohydrate	5 mg/m3 (CEIL)	0.2 mg/m3 (respirable fraction)	1 mg/m3 (TWA)
Sodium molybdate, dehydrate	5 mg/m3	0.5 mg/m3 (respirable fraction)	
Disodium octaborate		6 mg/m3 (STEL)	
Ferrous sulfate, monohydrate		1 mg/m3 (TWA)	1 mg/m3 (TWA)
Copper sulfate, pentahydrate (dust and mist)			1 mg/m3 (TWA)

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in areas where ventilation is inadequate, use a NIOSH approved air-purifying respirator with cartridges/canisters approved for use against 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: 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 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:	Liquid	Specific Gravity (H₂O=1):	1.23 – 1.26
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	10.26 – 10.51 lbs/gallon
Vapor Density (Air=1):	Not determined	Salt Out/Crystallization:	32°F (estimated)
Solubility in Water (wt %):	100%	Boiling Point/Range:	>212°F (estimated)
Viscosity:	Not determined	pH:	2.5 – 3.5
Appearance and odor:	Green to brown with a faint, sweet odor	Flash Point:	Not determined

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: Contact with incompatible materials.

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: No hazardous decomposition products are known.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects: Causes serious eye irritation and damage.
Skin Effects: Causes skin irritation. Estimated LD50 >2000 mg/kg (rabbit)
Acute Inhalation Effects: Based upon component data inhalation is not anticipated to be acutely toxic. Prolonged inhalation may cause damage to organs.
Acute Oral Effects: Estimated LD50 >2,000 mg/kg
Specific Target Organ Toxicity: Prolonged inhalation may cause damage to organs such as the central nervous system and lungs.

CHRONIC TOXICITY

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.

POTENTIAL HEALTH EFFECTS:

Eyes: Causes serious eye irritation with possible damage. Symptoms include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Skin: Causes skin irritation.
Inhalation: Prolonged inhalation may be harmful.
Ingestion: May cause gastric upset if swallowed.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity: Estimated 96 hr LC50 = 53 mg/L
Aquatic Invertebrate Acute Toxicity: Estimated 48 hr EC50 for Daphnia = 136 mg/L
Aquatic Plant Toxicity: Not known
Bird Acute and Prolonged Toxicity: Not known
Honeybee Toxicity: Not known

ENVIRONMENTAL EFFECTS:

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

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.

SECTION 14: TRANSPORT INFORMATION	
DOT: (Ground)	This product is not regulated by the U.S. Department of Transportation as a hazardous material for ground shipment in quantities less than 480 gallons. For quantities of 480 gallons or greater: UN3082, Environmentally hazardous substance, liquid, n.o.s. (Copper sulfate, Ferrous sulfate), 9, PG III, RQ
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

SECTION 15: REGULATORY INFORMATION																			
<p>TSCA Inventory: All components are listed or exempt from listing on the TSCA inventory.</p> <p>SARA Title III Information:</p> <p style="margin-left: 20px;">Section 302 - Extremely hazardous substances: None listed</p> <p style="margin-left: 20px;">Section 311/312 – Hazard Categories: Immediate (Acute), Delayed (Chronic)</p> <p style="margin-left: 20px;">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 (1.0 - <3.0%), Zinc compounds (1.0 - <3.0%)</p>																			
<p>CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):</p> <p style="margin-left: 20px;">Copper sulfate has an RQ of 10 lbs (reached with 5,000 lbs of product).</p> <p style="margin-left: 20px;">Ferrous sulfate has an RQ of 1,000 lbs (reached with 5,181 lbs of product).</p>																			
<p>California Proposition 65: This product does not contain any chemicals known to the state of California to cause cancer and/or reproductive harm.</p>																			
<p>U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Chemical Name</th> <th style="text-align: left;">CAS #</th> <th style="text-align: left;">State(s)</th> </tr> </thead> <tbody> <tr> <td>Urea</td> <td>57-13-6</td> <td>MN</td> </tr> <tr> <td>Copper sulfate, pentahydrate</td> <td>7758-99-8</td> <td>MA, NJ, PA</td> </tr> <tr> <td>Ferrous sulfate, monohydrate</td> <td>17375-41-6</td> <td>MA, RI</td> </tr> <tr> <td>Manganese sulfate, monohydrate</td> <td>10034-96-5</td> <td>NJ, RI</td> </tr> <tr> <td>Zinc sulfate, monohydrate</td> <td>7446-19-7</td> <td>MA, NJ, PA</td> </tr> </tbody> </table>		Chemical Name	CAS #	State(s)	Urea	57-13-6	MN	Copper sulfate, pentahydrate	7758-99-8	MA, NJ, PA	Ferrous sulfate, monohydrate	17375-41-6	MA, RI	Manganese sulfate, monohydrate	10034-96-5	NJ, RI	Zinc sulfate, monohydrate	7446-19-7	MA, NJ, PA
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<p>Canadian Domestic Substances List: Not determined</p>																			
<p>WHMIS Classification: This product is not registered for use in Canada. WHMIS classification is not determined.</p>																			

SECTION 16: OTHER	
<p>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.</p>	
<p>Revision Date: May 16, 2014</p> <p>Sections Revised: All</p>	<p>Supersedes document dated: February 1, 2013</p>