

SAFETY DATA SHEET (SDS)

Agro-K Corporation

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Vigor LeafMax
 Common Name: Liquid fertilizer
 Identified Uses: Intended for agriculture. Not for human consumption.

Supplier: AGRO-K CORPORATION
 8030 MAIN STREET NE
 MINNEAPOLIS, MN 55432
 Telephone: (763) 780-4116 / (800) 328-2418
 FAX: (763) 780-4316

CHEMTREC
 Emergency Telephone: (800) 424-9300

II. HAZARDS IDENTIFICATION

Classification:
 Eye Irritant 2B H320
 Oral Irritant 5 H303
 Skin Irritant 3 H316
 STOTRE 2 H373
 Aquatic Acute 3 H402



Hazard pictogram:

Signal word: Warning
 Hazard statements: H320 – May cause eye irritation
 H303 – May be harmful if swallowed
 H316 – May skin irritation
 H373 – May cause damage to organs through repeated exposure (ingestion)
 H402 – May be harmful to aquatic life
 Precautionary statements: P264 – Wash thoroughly after handling
 P270 – Do not eat, drink, or smoke when using this product.
 P273 – Avoid release to environment.
 P303 – Rinse mouth
 P302+P352 – If on skin: Wash with plenty of soap and water
 P308+P313 – If exposed or concerned: Get medical advice/attention
 P305+P351+P338 – If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P301+312 – If swallowed, call a poison center/doctor if you feel unwell
 P332+P313 – If skin irritation occurs: Get medical advice/attention
 P337+P313 – If eye irritation occurs: Get medical advice/attention
 P501 – Dispose of contents/container in accordance with local/regional/national regulations

III. COMPOSITION/INFORMATION ON INGREDIENTS

Blend of the following ingredients:

Chemical Compound	CAS Number
Copper sulfate	7758-99-8
Magnesium sulfate	7487-88-9
Manganese sulfate	10101-68-5
Zinc sulfate	7446-19-7

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Iron Sulfate	7720-78-7
Sodium Molybdate	10102-40-6

*Ingredients not specifically listed are non-hazardous and are considered to be confidential

IV. FIRST AID MEASURES

If in Eyes:	Hold eyelid open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If irritation develops and persists, call a poison control center or doctor immediately for treatment advice.
If on Skin:	Take off contaminated clothing. Rinse skin immediately with plenty of soap and water for 15-20 minutes. If irritation persists, call a poison control center or doctor immediately for treatment advice.
If Swallowed:	Give large quantities of water and do not induce vomiting. Do not give anything to an unconscious or convulsing person. Call a poison control center or doctor immediately for treatment advice.

Hotline Number: Have the product container or label with you when calling a poison control center or doctor or going for treatment. In case of emergency, call ChemTrec at 1-800-424-9300.

V. FIRE FIGHTING MEASURES

Firefighting notes:	Material not flammable.
Suitable extinguishing media:	Use extinguishing media for surrounding cause of fire.

VI. ACCIDENTAL RELEASE MEASURES

Spill procedure:	Capture product and reuse material if uncontaminated. If contaminated, place in a suitable container for proper disposal.
Clean-up	Mop, vacuum, scoop, or sweep up material and place in container for disposal.

VII. HANDLING AND STORAGE

Precautions for safe handling:	Keep out of reach of children.
Storage Conditions:	Keep in closed container and properly labeled. May be corrosive to copper, brass or mild steel.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Hand protection:	Wash thoroughly after handling.
Eye protection:	Wear protective eyewear if exposure is expected.
Other information:	Do not eat, drink, or use tobacco during use. Practice good hygiene after use of this material; especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical description:	Liquid
Color:	Clear to brownish yellow
Odor:	No data available
Odor threshold:	No data available

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Vapor density:	No data available
pH:	3.0
Relative density:	1.250
Melting/freezing point:	No data available
Solubility:	Soluble in water
Boiling point:	No data available
Flash point:	No data available
Flammability:	No data available
Vapor Pressure:	No data available
Partition coefficient:	No data available
Auto-ignition temperature:	No data available
Viscosity:	No data available

X. STABILITY AND REACTIVITY

Chemical stability:	Stable.
Incompatibility with other materials:	Strong acids, strong bases, strong oxidizers, water reactive materials.
Hazardous combustion:	Will not occur.
Hazardous polymerization:	Will not occur.
Hazardous decomposition products:	When heated in a fire, may form manganese oxide, carbon monoxide, sulfur dioxide

XI. TOXICOLOGY

Potential acute toxicity:

Eyes:	May cause eye irritation.
Skin:	May cause skin irritation.
Ingestion:	May cause nausea, vomiting, or diarrhea.

Chemical Compound	LD50 oral	LD50 dermal
Copper ingredient	482 mg/kg (rat)	>2000 mg/kg (rat)
Zinc ingredient	1710 mg/kg (rat)	
Iron ingredient	237 mg/kg (rat)	
Molybdenum ingredient	4233 mg/kg (rat)	>2,000 mg/kg

Potential chronic toxicity:

Chronic effects:	Manganese is a possible mutagen
Carcinogenic effects:	No known significant effects or critical hazards.
Mutagenic effects:	No known significant effects or critical hazards.
Reproductive toxicity:	No known significant effects or critical hazards.
Target Organs:	Central nervous system, lungs

XII. ECOLOGICAL INFORMATION

Aquatic ecotoxicity:

Chemical Compound	Toxicity
Copper ingredient	EC50 - Daphnia magna (Water flea) - 0.024 mg/l - 48 h
Zinc ingredient	Rainbow trout LC50 4.76 MG/L/48HR hard water, 4.6 ppm/96hr/fresh water
Iron ingredient	96 HR LC50 POECILIA RETICULATA 925 MG/L, 48 HR EC50 DAPHNIA MAGNA 152 MG/L
Molybdenum ingredient	>79800 µg/L 96 hour LC50 (Mortality) striped bass (Morone saxatilis), 2650000 µg/L 96 week EC50 (Immobilization) amphipod (Crangonyx pseudogracilis), 960000 µg/L 48 week (Cytogenetic) flagellate euglenoid (Euglena gracilis), 960 µg/L 7 day LC50 (Mortality) narrow mouthed frog (Microhyla carolinensis)

Biodegradability:	Not determined
Environmental Precautions:	No known significant effects or critical hazards
Mobility:	Not available
Other Adverse Effects:	No known significant effects or critical hazards

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Method: This material must be disposed of according to federal, state, or local procedures under the resource conservation and recovery act.

Container Disposal: Triple rinse and dispose of in accordance the federal, state, and local laws and regulations

XIV. TRANSPORT INFORMATION

Shipping Name:	Not regulated by DOT
Hazard Class:	None
Identification No.:	None
Labels Required:	None
Placarding:	None

XV. REGULATORY INFORMATION

TSCA Inventory: All components are listed on the TSCA inventory.

SARA Title III Information:

Section 302:	None listed
Section 311/312:	Acute, Chronic
Section 313:	None listed

California Proposition 65: This product contains chemical(s) known to the State of California to cause cancer and birth defects or reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information:

Canadian Domestic Substances List: All components are listed.

XVI. OTHER INFORMATION

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Agro-K, Corporation knowledge. Agro-K, Corporation makes no warranty, express or 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.

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