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## **SECTION 3: Composition/information on ingredients**

### **3.1 Mixtures**

#### **Hazardous components**

##### **1. MANGANESE (II) SULFATE MONOHYDRATE**

Concentration	Not specified
CAS no.	10034-96-5

- Specific target organ toxicity (repeated exposure), Cat. 2
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]
H411	Toxic to aquatic life with long lasting effects

##### **2. Manganese citrate**

Concentration	Not specified
CAS no.	10024-66-5

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## **SECTION 4: First-aid measures**

### **4.1 Description of necessary first-aid measures**

If inhaled	Remove to fresh air. If breathing becomes difficult, contact a medical physician. Give artificial respiration if victim is not breathing and obtain immediate medical attention.
In case of skin contact	Wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if skin becomes irritated.
In case of eye contact	Flush immediately with water for at least 15 minutes, lifting the upper and lower eyelids occasionally. Call a physician if eye irritation persists.
If swallowed	Call physician or Poison Control Center immediately for most current information. Dilute with large amounts of water. Do not induce vomiting unless directed to do so by a medical professional. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. If vomiting occurs, keep head lower than hips to prevent introduction of fluid into the lungs.

### **4.2 Most important symptoms/effects, acute and delayed**

Eyes: May cause inflammation, redness, and possible damage with prolonged exposure.

Skin: Prolonged or repeated exposure may cause skin ulcerations and /or burns.

Inhalation: It may cause headaches, nausea, or weakness in case of prolonged exposure. Oxygen can be administered if breathing becomes difficult.

Ingestion: May result in nausea, vomiting, diarrhea, digestive disorders, or chemical burns.

## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

Water spray, Foam, Carbon Dioxide, Dry-Chemical.

### **5.2 Specific hazards arising from the chemical**

Avoid high temperatures that may cause thermal decomposition or explosion, especially in confined or poorly ventilated spaces.

### **5.3 Special protective actions for fire-fighters**

Wear positive pressure, self-contained breathing apparatus (SCBA) and goggles. Avoid exposure to smoke or fumes. Contain any liquid runoff.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment, and emergency procedures**

For small or incidental spills, the minimum personal protective equipment should be rubber gloves, rubber apron, and chemical goggles. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Gas masks with ammonia canister or SCBA gear may be required. For large spills, contain by diking with soil or other non-combustible absorbent material. Dilution with water will reduce the release of ammonia vapors. Keep material out of sewers, storm drains, and surface waters. Comply with all applicable government regulations on spill reporting, handling, and waste disposal.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Store in a cool (above 40 °F), dry, well-ventilated area away from incompatible materials. This product should be stored in tanks constructed of stainless steel, fiberglass, polypropylene, or polyethylene. Valves should be inspected on a regular basis and replaced as needed to prevent leakage. Transfer equipment (valves, pumps, etc.) should be constructed of stainless steel or chemical-resistant plastic.

### **7.2 Conditions for safe storage, including any incompatibilities**

Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Wash with soap and water after handling.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

**1. MANGANESE (II) SULFATE MONOHYDRATE (CAS: 10034-96-5)**

**2. Manganese citrate (CAS: 10024-66-5)**

### **8.2 Appropriate engineering controls**

Use with adequate ventilation to keep airborne levels below recommended exposure limits.

### **8.3 Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Chemical dust/splash goggles or full-face shield to prevent eye contact. As a general rule, contact lenses should not be worn when working with chemicals because they contribute to the severity of an eye injury.

#### **Skin protection**

Rubber gloves with gauntlets.

# Safety Data Sheet

## Core Ready Man Liquid Manganese

### Body protection

Use body protection appropriate for task. Chemical-resistant coveralls and rubber aprons are generally acceptable.

### Respiratory protection

If work conditions generate vapors or mist, wear a NIOSH approved respirator appropriate for those emission levels. Appropriate respirator may be a full facepiece respirator, an SCBA in the pressure demand mode, or a supplied-air respirator.

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## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	dark reddish-brown liquid
Odor	none
Odor threshold	NA
pH	9.5 -10
Melting point/freezing point	32F
Initial boiling point and boiling range	212F
Flash point	NA
Evaporation rate	NA
Flammability (solid, gas)	NA
Upper/lower flammability limits	NA
Vapor pressure	NA
Vapor density	NA
Relative density	9.8lbs/gal
Solubility(ies)	NA
Partition coefficient: n-octanol/water	NA
Auto-ignition temperature	NA
Decomposition temperature	NA
Viscosity	NA
Explosive properties	NA
Oxidizing properties	NA

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

stable under normal conditions

### 10.2 Conditions to avoid

high heat

### 10.3 Incompatible materials

strong acids and bases

# Safety Data Sheet

## Core Ready Man Liquid Manganese

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### SECTION 11: Toxicological information

#### Information on toxicological effects

##### Acute toxicity

May cause severe gastrointestinal irritation, vomiting, stomach cramps, and diarrhea. May interfere with circulation and oxygen carrying capacity of blood with prolonged exposure.

##### Skin corrosion/irritation

Moderate irritant, especially with prolonged exposure. May cause skin ulceration and/or burns.

##### Serious eye damage/irritation

Moderate irritant. May cause redness, burning, inflammation, and/or damage.

##### Respiratory or skin sensitization

May cause irritation to mucous membranes, coughing, or breathing difficulties. If exposed to decomposition gases remove from area immediately.

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### SECTION 12: Ecological information

#### Toxicity

May be harmful to fish, livestock, and wildlife. Dissolved mineral salts may cause irritation of the digestive tract. Non-persistent. Non-cumulative when applied using normal agricultural practices.

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### SECTION 13: Disposal considerations

#### Disposal of the product

Do not contaminate lakes, streams, ponds, estuaries, oceans, or other waters by discharge of waste effluents or equipment rinse. Dispose of waste effluents according to federal, state, and local regulations. Chemical additions or other alterations of this product may invalidate any disposal information in this SDS.

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### SECTION 14: Transport information

#### DOT (US)

Not dangerous goods

#### IMDG

Not dangerous goods

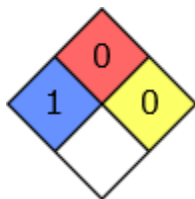
#### IATA

Not dangerous goods

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### SECTION 15: Regulatory information

#### NFPA Rating



**Safety Data Sheet**  
**Core Ready Man Liquid Manganese**

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**SECTION 16: Other information**

The information and recommendations herein are taken from data contained in independent, industry recognized references including NIOSH, OSHA, ANSI, and NFPA. This information is, as of date listed above, true and accurate to the best of Core Agri, Inc. knowledge. It is intended for use by persons possessing technical knowledge and at their own discretion and risk. Since actual use is beyond our control, no guarantee, express or implied, and no liability is assumed by Core Agri, Inc. in conjunction with the use of this information. Actual conditions of use and handling may require consideration of information other than, or in addition to, that which is provided herein.