

CATALYTIC INNOVATIONS



SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

Product Name: *Manganese Nitrate Solution (15% Mn)*

CAS #: 10377-66-9

Trade Names/Synonyms: Manganese Nitrate,

EPA Reg. No.: Not applicable

Use of substance/mixture: For laboratory and manufacturing use only.

Restricted Use: Not for food, drug, or household use.

Manufacturer: Catalytic Innovations, LLC
10027 County Road 2020
Rolla, MO 65401

Emergency Contact Number: **573-578-1368**

SDS CREATION DATE: April 19th, 2023

SDS REVISION DATE: N/A

2. HAZARD IDENTIFICATION

GHS CLASSIFICATION: Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1, Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Acute Aquatic Hazard Category 3

SIGNAL WORD: Danger!

HAZARD STATEMENTS:

H272: May intensify fire; oxidizer.

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

H412: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Prevention Measures:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260: Do not breathe dust.

P273: Avoid release to the environment.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response Measures:

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



HEALTH COMMENTS: Read all precautions of products being handled and follow the most restrictive language for all products to provide the safest work environment.

COMMENTS: KEEP OUT OF REACH OF CHILDREN

3. COMPOSITION

<u>Chemical Ingredients:</u>	<u>Percentage by Weight</u>	<u>CAS No.</u>	<u>GHS-US</u>
Water	50%	7732-18-5	
Manganese Nitrate	50%	10377-66-9	

4. FIRST AID MEASURES

EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first minutes then continue rinsing eyes. Call a poison control center or doctor for treatment advice if pain, blinking, or redness persists.

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water and mild soap for 15-20 minutes followed by a rinse with warm water. Call a poison control center or doctor for treatment advice.

INGESTION: Immediately call a poison control center or doctor. Rinse the mouth. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. Allow the victim to rest. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Symptoms: If ingested, then nausea, vomiting, and diarrhea. If inhaled, may cause respiratory irritation. Can also cause serious eye irritation and skin irritation.

Chronic Symptoms: Prolonged or repeated exposure with the skin may cause dermatitis.

5. FIRE FIGHTING MEASURES

Flash Point (°F/Test Method): Data unavailable.
Flammable Limits (LFL & UFL): Not flammable.

Extinguishing Media: Water spray. Carbon dioxide. Dry chemical. Chemical foam. **DO NOT** use a heavy water stream.

Specific Hazards Arising from Chemical: The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products: Nitrogen oxides (NO_x).

Precautionary Measures for Fire-Fighters: Exercise caution when fighting any chemical fire. Prevent fire-fighting water that may be contaminated by chemical from entering the environment. Do not enter without personal protective equipment, including respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Sweep up, shovel, or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Avoid release to the environment.

Environmental Caution: Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Notify the authorities if liquid enters the sewers or public waters.

7. HANDLING/STORAGE INFORMATION

Precautions for Safe Handling: Use in a well-ventilated area. Avoid eye and skin contact and do not breathe in dust.

Precautions for Storage: Keep container tightly closed when in use. Do not store the product with highly reactive substances and strong reducing agents. Keep in a dry, cool and well-ventilated place.

Other Comments: No information available.

Observe all federal, state and local regulations when storing this product. It is recommended that storage and transfers of this product be done on an impervious surface to prevent contamination of waterways.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Parameters:

Component: Manganese Nitrate		
Agency	Parameters	Values
ACGIH	TWA	0.02-0.1 mg/m ³
OSHA	PEL	5 mg/m ³
NIOSH	IDLH	500 mg/m ³
	TWA	1 mg/m ³
	STEL	3 mg/m ³

Engineering Controls: Emergency eye wash fountains and showers should be made available in the immediate vicinity of the chemical or where exposure can occur. Ensure adequate ventilation.

Hygiene Measures: Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking, or when leaving work. Do not bring contaminated clothing outside of work areas.

Respiratory Protection: Avoid breathing dust or mist. Use NIOSH/OSHA approved respiratory protection equipment when air borne exposure is excessive

Skin/Body Protection: Wear chemically protective gloves. Wear chemically protective boots, aprons, and gauntlets to prevent prolonged or repeated contact with skin.

Eye/Face Protection: Wear safety goggles when handling this product. Use a face shield for additional protection. Contact lenses are not eye protective devices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: Clear to Pink

Odor: Faint acrid smell

pH: No data available.

Evaporation Rate: No data available.

Flammability: Non-flammable.

Melting Point: No data available.

Freezing Point: No data available.

Boiling Point: >100 0C
Flash Point: Non-flammable.
Relative Density: No data available.
Water Solubility: Manganese Nitrate, Tetrahydrate is soluble in water.
Specific Gravity (water = 1.0): 1.54
Percent Volatile (by volume): No data available.
Vapor Pressure: No data available
Vapor Density: No data available
Viscosity: No data available.
Partition Coefficient: N-Octanol/Water : No data available.

10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability: Hygroscopic. Oxidizer: Contact with combustible/organic material may cause fire (concerning the Manganese Nitrate component).

Conditions to Avoid: Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water. Combustible material.

Incompatible Materials: Strong reducing agents, Combustible material

Hazardous Decomposition Products: Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation and skin/eye contact.

Acute Toxicity Effects:

Component: Manganese Nitrate	
Test	Results
LD50	>300 mg/kg

Sensitization: No information available.

Eye Irritation : Causes serious eye irritation.

Skin Irritation: Causes skin irritation.

Respiratory Irritation: May cause respiratory irritation.

Reproductive Toxicity: No information available.

Developmental Toxicity: No information available.

STOT Single Exposure: Respiratory System.

STOT Repeated Exposure: Brain.

Carcinogenicity: No information available.

Acute Symptoms: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Chronic Effects: No data available.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY EFFECTS: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment

PERSISTENCE AND DEGRADABILITY: Soluble in water. Persistence though is unlikely based on available information.

BIOACCUMULATIVE POTENTIAL: Not established.

Do not contaminate water supplies. Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Evaluation is required by the user at the time of disposal. In all cases, disposal should be in accordance with all local, state, and federal laws and regulations. For recycling options please contact product manufacturer. Avoid release to the environment.

14. TRANSPORTATION INFORMATION

Corrosive liquid, acidic, inorganic, N.O.S. (nitric acid). Hazard class: 8, Corrosive. UN number: 3264.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

Component: Manganese Nitrate	
Statute	Status
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
SARA Section 313 (Tri Reporting)	YES
TSCA Listing	YES
CWA	N/A
CAA	N/A
CERCLA	N/A

16. OTHER INFORMATION

Prepared by: ESH Department
SDS Preparation Date: April 19th, 2023
Last Revision Date: April 19th, 2023

NFPA CODES



FOR ADDITIONAL NON-EMERGENCY INFORMATION CONTACT:

Catalytic Innovations, LLC
10027 County Road 2020
Rolla, MO 65401
573-578-1368

Note: This SDS was prepared for and shall only be used for this product. The information and recommendations on this SDS are presented in good faith and based on data which is believed to be accurate. Catalytic Innovations, however, makes no guarantees or warranty, either expressed or implied,

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Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. This information relates to the specific product designated and may not be valid for such product used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness by Catalytic Innovations, LLC. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement. Catalytic Innovations, LLC reserves the right to refuse shipment of this product to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules and regulations. Such demonstration may require on-site inspection of any or all storage, processing, packaging and other handling systems that come in contact with it. Customers are responsible for compliance with local, state and federal regulations that may be pertinent in the storage, application and disposal of this product.

Legend for SDS's:

ACGIH (American Conference of Governmental Industrial Hygienists)

OSHA (Occupational Safety and Health Agency)

NIOSH (National Institute for Occupational Safety and Health)

IARC (International Agency for Research on Cancer)

TSCA (Toxic Substance Control Act)

SARA (Superfund Amendments and Reauthorization Act)

CFR (Code of Federal Regulations)

DOT (Department of Transportation)

CAS (Chemical Abstracts Service)

CWA (Clean Water Act)

CAA (Clean Air Act)