

**MANGANESE NITRATE SOLUTION 15% Mn****Section 1 – Identification**

|                      |                                         |                                                                           |
|----------------------|-----------------------------------------|---------------------------------------------------------------------------|
| Product              | Manganese Nitrate Solution 15% Mn       | Recommended Use:<br>Used in agriculture as a micro nutrient<br>fertilizer |
| Manufacturer         | TradeMark Nitrogen Corp.                |                                                                           |
| Address              | 1216 Old Hopewell Road, Tampa, FL 33619 |                                                                           |
| Phone                | (813) 626-1181 (800) 452-3107           |                                                                           |
| 24 Hour              | Chemtrec                                |                                                                           |
| Emergency<br>Contact | (800) 424-9300                          |                                                                           |

**Section 2 – Hazard Identification**

GHS03



GHS05



GHS07

Signal Word: **WARNING****Hazard Statements:**

- H272 May intensify fire; Oxidizer
- H302 Harmful if swallowed
- H314 Causes severe skin burns and eye damage
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H333 May be harmful if inhaled
- H335 May cause respiratory irritation

**Precautionary  
Statements:**

- P101 If medical advice is needed, have product container or label at hand
- P102 Keep out of reach of children
- P103 Read label before use
- P202 Do not handle until all safety precautions have been read and understood
- P220 Keep / store away from clothing and combustible materials
- P233 Keep container tightly closed
- P260 Do not breathe dust / fumes / gas / mist / vapours / spray
- P262 Do not get in eyes, on skin, or on clothing
- P264 Wash hands thoroughly after handling
- P270 Do not eat, drink or smoke when using or handling this product
- P273 Avoid release to the environment
- P280 Wear protective gloves / protective clothing / eye protection / face protection
- P285 In case of inadequate ventilation wear respiratory protection
- P301 + P312 If swallowed, call a POISON CENTER or doctor / physician if you feel unwell
- P302 + P352 IF ON SKIN: wash with plenty of soap and water
- P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in position comfortable for breathing
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P331 Do NOT induce vomiting
- P370 + P380 In case of fire: Evacuate area
- P402 + P404 Store in a dry place. Store in closed container
- P501 Dispose of contents / container in accordance with local, state and federal regulations

### Section 3 – Composition

| Ingredients | Component                                              | CAS. No.   | Percent by Weight | Percent as Metal |
|-------------|--------------------------------------------------------|------------|-------------------|------------------|
|             | Manganese Nitrate (Mn(NO <sub>3</sub> ) <sub>2</sub> ) | 10377-66-9 | 45%               | 15.0% Mn         |
|             | Water (H <sub>2</sub> O)                               | 7732-18-5  | Balance           |                  |

### Section 4 – First Aid Measures

|                        |                                                                                                                                                                                                           |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation             | If inhaled: Remove person to fresh air and keep comfortable for breathing. Provide artificial respiration if necessary. Seek medical attention if necessary.                                              |
| Skin Contact           | If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water for at least 15 minutes.                                                                                         |
| Eye Contact            | If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention if irritation persists.   |
| Ingestion              | If swallowed: <b>Do NOT induce vomiting.</b> Drink large amounts of water. Never give anything by mouth to an unconscious person. Seek prompt medical attention.                                          |
| Acute Health Hazards   | Harmful if swallowed or inhaled. Destructive to mucous membranes and upper respiratory tract, eyes and skin. Redness and irritation of tissue may occur. Ingestion can lead to stomach aches and nausea.  |
| Chronic Health Hazards | Prolonged exposure to manganese compounds may result in manganese poisoning, not usually fatal but disabling. Target organs include respiratory system, central nervous system, lungs, blood and kidneys. |

### Section 5 – Fire Fighting Measures

|                                               |                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Extinguishing Techniques & Equipment | Non-combustible, but can contribute to the intensity of the fire. Wear self-contained breathing apparatus and full protective gear.                                                                                                                                                                                       |
| Chemical Hazards From Fire                    | Under fire conditions, this product behaves as an oxidizer. Contact with oxidizable substances may result in ignition, violent combustion or explosion. This material may decompose and produce acrid vapors, manganese compounds and oxides of nitrogen.                                                                 |
| Special Fire Fighting Procedures              | Use water to extinguish fire. Do not use dry chemicals or foams. CO <sub>2</sub> or halon may provide limited control.<br><br>Fire fighters should wear appropriate protective equipment, full turn-out gear, and utilize a SCBA (self contained breathing apparatus). Keep upwind. Fight fire from a protected location. |
| NFPA Rating                                   | Health - 2 (Moderate)<br>Fire - 0 (Least)<br>Reactivity - 1 (Slight)<br>OXY - Oxidizer                                                                                                                                                                                                                                    |
| Other                                         | Do not allow run-off from fire fighting to enter drains or water courses.                                                                                                                                                                                                                                                 |



### Section 6 – Accidental Release Measure

|                      |                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal Precautions | Manganese Nitrate is an oxidizer. Avoid contact with skin. Avoid splashing. Prevent exposure to spilled material with the use of proper PPE.                                                 |
| Protective Equipment | PPE should include gloves, goggles, face shield and level C protective suit.                                                                                                                 |
| Containment          | Control the flow of product using dikes of soil, sand bags or other commercially available inert sorbent socks or booms.                                                                     |
| In Case of Spill     | Absorb product with inert absorbent. Avoid splashing or spraying. Contain and pick up spill in diked area. Prevent discharge to sewers or water ways. If uncontaminated, recover and re-use. |

### Section 7 – Safe Handling & Storage

|                                         |                                                                                                                                                                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Precautions for Safe Handling & Storage | Store in a well ventilated cool dry place. Containers should be kept closed and labeled properly. Liquid is an oxidizer and may cause fire with combustibles. Do not heat (weld, cut, braze) a container with manganese nitrate in it. |
| Incompatibility                         | Avoid contact with combustibles (wood, paper, cotton). Keep away from fire. Extreme heat may result in decomposition of material to toxic fumes of nitrogen oxides.                                                                    |

### Section 8 – Exposure Controls / Personal Protection

| Exposure Limits | Component                                              | Permissible Exposure Limit                 | Threshold Limit Value                      | Short Term Exposure Limit | Immediately Dangerous to Life or Health      |
|-----------------|--------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------------------------|----------------------------------------------|
|                 | Manganese Nitrate (Mn(NO <sub>3</sub> ) <sub>2</sub> ) | 5 mg/m <sup>3</sup> (as Mn) <sup>(1)</sup> | 0.2 mg/m <sup>3</sup> (TWA) <sup>(1)</sup> | Not Established           | 500 mg/m <sup>3</sup> (as Mn) <sup>(2)</sup> |
|                 | Water (H <sub>2</sub> O)                               | Not Established                            | Not Established                            | Not Established           | Not Established                              |

<sup>(1)</sup> Limits are listed under Manganese and inorganic compounds (OSHA / ACGIH).

<sup>(2)</sup> Limits are listed under Manganese compounds, N.O.S. (NIOSH)

|                      |                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------|
| Engineering Controls | Provide ventilation sufficient to maintain exposure below PEL/TWA/TLV. Washing facilities should be available. |
|----------------------|----------------------------------------------------------------------------------------------------------------|

|                               |                                                                                   |                                                                                                                    |                                                                                   |                                                                                   |  |
|-------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--|
| Personal Protective Equipment | <b>Eyes</b>                                                                       | Chemical safety goggles and full face shield. Contact lenses should not be worn when handling product.             |                                                                                   |                                                                                   |  |
|                               | <b>Hands</b>                                                                      | Impervious chemical protective gloves.                                                                             |                                                                                   |                                                                                   |  |
|                               | <b>Respiratory</b>                                                                | None required under normal conditions. Self contained respiratory equipment should be used under spill conditions. |                                                                                   |                                                                                   |  |
|                               | <b>Protective Clothing</b>                                                        | Chemical resistant protective clothing.                                                                            |                                                                                   |                                                                                   |  |
|                               |  |                                   |  |  |  |
|                               | Gloves                                                                            | Goggles                                                                                                            | Face Shield                                                                       | Protective Clothing                                                               |  |

## Section 9 – Physical & Chemical Properties

|                     |                                  |                     |                   |
|---------------------|----------------------------------|---------------------|-------------------|
| Appearance and Odor | Light pink & odorless            | Specific Gravity    | 1.55 at 68°F      |
| Boiling Point       | > 212°F (>100°C) at 1 atmosphere | Solubility in Water | No Data Available |
| Freezing Point      | No Data Available                | Evaporative Rate    | No Data Available |
| Vapor Pressure      | No Data Available                | pH                  | < 1.0             |
| Weight per Gallon   | 12.9 lbs/gal                     | Salt-Out Temp       | < 54.9°F (12.7°C) |
| Flash Point         | No Data Available                | Auto Ignition Temp  | Not Flammable     |
| Flammability Limits | No Data Available                | LEL                 | No Data Available |
| UEL                 | No Data Available                |                     |                   |

## Section 10 – Stability & Reactivity

|                                  |                                                                       |
|----------------------------------|-----------------------------------------------------------------------|
| Reactivity                       | Product may act as an oxidizer.                                       |
| Stability                        | Product is corrosive at standard temperature and pressure.            |
| Hazardous Reactions              | Hazardous polymerization will not occur.                              |
| Conditions to Avoid              | Elevated temperatures may cause container to rupture.                 |
| Incompatible Materials           | Organic or other oxidizable materials, copper or brass.               |
| Hazardous Decomposition Products | Extreme heat may cause decomposing to toxic fumes of nitrogen oxides. |

## Section 11 – Toxicology Information

|                                |                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Routes of Exposure             | Inhalation, ingestion or skin/eye absorption                                                                                                                                                                                                                                                                                                                                                        |
| Symptoms and Signs of Exposure | <p><b>Eyes</b> Mild irritant.</p> <p><b>Skin</b> Mild irritant.</p> <p><b>Inhalation</b> Of gases or mist causes irritation to the upper respiratory system, including the mucous membrane, the nose, mouth and throat. Chemical burns may occur if inhaled. Cough, fever, nausea, headache, shortness of breath and sore throat are possible.</p> <p><b>Ingestion</b> may cause upset stomach.</p> |
| Long Term Effects              | Prolonged exposure to manganese compounds may result in manganese poisoning, not usually fatal but disabling. Target organs include respiratory system, central nervous system, lungs, blood and kidneys.                                                                                                                                                                                           |
| Carcinogen                     | The International Agency for Research on Cancer has not classified manganese nitrate for its carcinogenic potential (IARC 1987).                                                                                                                                                                                                                                                                    |
| Toxicity                       | 500 mg/m <sup>3</sup> (as Mn) is Immediately Dangerous to Life and Health (NIOSH).                                                                                                                                                                                                                                                                                                                  |

## Section 12 – Ecological Information

|                              |                   |
|------------------------------|-------------------|
| Toxicity                     | No Data Available |
| Persistence of Degradability | No Data Available |
| Bioaccumulation Potential    | No Data Available |

## Section 13 – Disposal Considerations

|       |                                                                                                                                                             |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste | Disposal must be done in accordance with local, state and federal environmental regulations. Place waste in an appropriate container with correct labeling. |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Section 14 – Transport Information

This material is hazardous as defined by 49 CFR 172.101 by the US Department of Transportation

UN ID Number UN 3093  
Proper Shipping Name UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Manganese Nitrate Solution), 8 (5.1), PG II  
Hazard Class 8 (5.1)  
Packing Group PG II  
US DOT Label Corrosive  
Marine Pollutant No  
Emergency Response Guide Number 140



This material is regulated as a Dangerous Good per the IMDG Code

UN ID Number UN 3093  
Proper Shipping Name UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Manganese Nitrate Solution), 8 (5.1), PG II  
Hazard Class 8 (5.1)  
Packing Group PG II  
Label Corrosive



This material is regulated as a Dangerous Good per the IATA Code

UN ID Number UN 3093  
Proper Shipping Name UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Manganese Nitrate Solution), 8 (5.1), PG II  
Hazard Class 8 (5.1)  
Packing Group PG II  
Label Corrosive



## Section 15 – Regulatory Information

United States - SARA Hazard Category This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (SARA) and is considered, under applicable definitions, to meet the following categories:

| Fire - No                                                                                                                                                                                                             | Pressure - No | Reactive - Yes   | Acute - Yes    | Chronic - No                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|----------------|-------------------------------|
| SARA Title III Information This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: |               |                  |                |                               |
| Chemical                                                                                                                                                                                                              | CAS No.       | CERCLA RQ (lbs.) | SARA Reporting |                               |
| Manganese Nitrate                                                                                                                                                                                                     | 10377-66-9    | N/A              | 302 No         | 304 No 313 Yes <sup>(1)</sup> |
| (1) As manganese compounds                                                                                                                                                                                            |               |                  |                |                               |

CERCLA / Superfund, 40 CFR Part 117, 302 If this product contains components subject to substances designated as CERCLA reportable Quantity (RQ) Substances, it will be designated in the above table with the RQ value in pounds. If there is a release of RQ Substance to the environment, notification to the National Response Center, Washington DC (800-424-8802) is required.

TSCA Manganese nitrate solution is a hydrated form of nitric acid, manganese(II) salt, which is listed on the TSCA inventory.

## Section 16 – Other Information

Issue Date: 4/30/2024  
Date of Revision August 2022 nomenclature updated. September 2019 SDS revised to include the GHS Precautionary / Hazard statements per current regulations. February 2018 SDS converted to new format and reviewed. October 2017 SDS update to meet GHS Standards. August 2014 TSCA statement revised. February 2013 revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.  
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