TRADEMARK NITROGEN

SAFETY DATA SHEET

MANGANESE NITRATE SOLUTION

Section 1 – Identification

Product	Manganese Nitrate Solution	Recommended Use: Used in a varity of agricultural and industrial purposes.
Manufacturer	TradeMark Nitrogen Corp.	
Address	1216 Old Hopewell Road, Tampa, FL 33619	
Phone	(813) 626-1181 (800) 452-3107	
24 Hour Emergency Contact	Chemtrec (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 respiritory 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 caustiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P331 Do NOT induce vomitting
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(NO3)2)	10377-66-9	50%	15% Mn

	Water (H_20)	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
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: **Do NOT induce vomiting**. Drink large amounts of water. Never give anything by mouth to an unconscious person. Seek promt 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. CO2 or halon may provide limited control. 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) Fire - 0 (Least) Reactivity - 1 (Slight) 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 labled 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 ($Mn(NO3)2$)	5 mg/m^3 (as Mn)[1]	0.2 mg/m^3 (TWA)[1]	Not Established	500 mg/m^3 (as Mn)[2]
Water (H_2O)	Not Established	Not Established	Not Established	Not Established

[1] Limits are listed under Manganese and inorganic compounds (OSHA / ACGIH).
[2] 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	**Eyes** Chemical safety goggles and full face sheild. Contact lenses should not be worn when handling product. **Hands** Impervious chemical protective gloves. **Respiratory** None required under normal conditions. Self contained respiratory equipment should be used under spill conditions **Protective Cloth** Chemical resistant protective clothing.


Gloves


Goggles


Face Shield


Protective Clothing

Section 9 – Physical & Chemical Properties

Appearance and Odor	Light pink & odorless	Specific Gravity	1.60 at 60°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	13.344 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 stable 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	**Eyes** Mild irritant. **Skin** Mild irritant. **Inhalation** 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. **Ingestion** may cause upset stomach.
Long Term Effects	Prolonged xposure 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/m3 (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 3098
Proper Shipping Name	UN 3098 Oxidizing Liquid, Corrosive, N.O.S. (Manganese Nitrate Solution)
Hazard Class	5.1 (8)
Packing Group	PG III
US DOT Label	Oxidizer
Marine	No
Emergency Response Guide Number	140

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

UN ID Number	UN 3098
Proper Shipping Name	UN 3098 Oxidizing Liquid, Corrosive, N.O.S. (Manganese Nitrate Solution)
Hazard Class	5.1 (8)
Packing Group	PG III
Label	Oxidizer

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

UN ID Number	3098
Proper Shipping Name	UN 3098 Oxidizing Liquid, Corrosive, N.O.S. (Manganese Nitrate Solution)
Hazard Class	5.1 (8)
Packing Group	PG III
Label	Oxidizer

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		
			302	304	313
Manganese Nitra	10377-66-9	N/A	No	No	Yes(1)

(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:	**9/26/2019**
Date of Revision	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.
Disclaimer	The information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is furnished free of charge and is based on data believed to be accurate and reliable as of the date hereof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Since actual use is beyond our control, no warranty, expressed or implied, and no liability is assumed by TradeMark Nitrogen Corp. in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents. TradeMark Nitrogen Corp. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.