



SAFETY DATA SHEET

ZINC NITRATE SOLUTION

Section 1 – Identification

Product	Zinc Nitrate Solution	Recommended Use:
		Used in the production of fertilizers and other chemicals.
Manufacturer	TradeMark Nitrogen Corp.	
Address	1216 Old Hopewell Road, Tampa, FL 33619	
Phone	(813) 626-1181 (800) 452-3107	
24 Hour	Chemtrec	
Emergency	(800) 424-9300	Chemtrec Canada: 1(703)-527-3887
Contact		

Section 2 – Hazard Identification



GHS03

Warning: May intensify Fire; Oxidizer
Keep away from heat. Store away from combustible materials.
In case of fire; Use water to extinguish.



GHS07

Warning: Irritant
May cause respiratory irritation. Avoid breathing
Use only in a well ventilated area.

Signal Word: WARNING

Precautionary Statements:

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P220 Keep / store away from heat, sparks, open flames, hot surfaces - No smoking.
- P221 Take any precaution to avoid mixing with incompatible materials, ignition sources, combustible materials
- P260 Do not breathe vapors, mist or spray
- P262 Do not get in eyes, on skin, or on clothing
- P264 Wash hands, forearms and other exposed areas thoroughly after handling
- P271 Use only outdoors or in a well ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required.
- P284 Wear respiratory protection.
- P285 In case of inadequate ventilation wear respiratory protection.
- P301 IF SWALLOWED:
- P331 Do NOT induce vomiting.
- P313 Get medical advice/attention.
- P303 IF ON SKIN OR HAIR:
- P361 P353 Remove/Take off immediately all contaminated clothing.
- P304 IF INHALED
- P340 Remove victim to fresh air and keep at rest in a position
- P313 Get medical advice/attention.
- P305 IF IN EYES
- P351 P338 Rinse cautiously with water for several minutes. Remove
- P337 P313 If eye irritation persists: Get medical advice/attention.
- P402 Store in a cool, dry place.
- P501 Dispose of contents / container to local, regional, national, territorial, provincial and international regulations.

Hazard Statements

- H270 May cause or intensify fire; oxidizer
- H302 Harmful if swallowed.
- H313 May be harmful in contact with skin.
- H333 May be harmful if inhaled.
- H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by
	Zinc Nitrate (Zn(NO ₃) ₂)	7779-88-6	50.00%
	Water (H ₂ O)	7732-18-5	50.00%

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. Flush exposed area with water for at least 15 minutes. Wash clothing before reuse.

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 as necessary.

Ingestion If swallowed: Rinse mouth. Do NOT induce vomiting. 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. High levels of zinc nitrate may reduce the blood's ability to transport oxygen causing headaches, fatigue, dizziness and blue lips and skin (methemoglobinemia).

Chronic Health Hazards Exposure to zinc compounds are mainly acute and last less than a day.

Section 5 – Fire Fighting Measures

Suitable Extinguishing Techniques & Equipment Not combustible, but can contribute to the intensity of the fire. Use appropriate extinguishing agent for the surrounding material. Use water, chemical foam, dry chemical, carbon dioxide, or alcohol-resistant foam. Water spray may be used to cool unopened containers.

Chemical Hazards From Fire If allowed to evaporate to dryness, zinc nitrate acts as an oxidizer. Contact with oxidizable substances may result in ignition, violent combustion or explosion. Poisonous gases are produced in fire including nitrogen oxides and zinc oxide vapors.

Special Fire Fighting Procedures wear self-contained breathing apparatus and full protective equipment.

Fire Fighting Procedures 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 - 0 (Least)



Other Do not allow run-off from fire fighting to enter drains or water courses.

Section 6 – Accidental Release Measure

Personal Precautions	Zinc 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 or face shield, chemical resistant clothing.
Containment	Control the flow of product using dikes of soil, sand bags or other commercially available inert sorbent socks or booms. Do not use saw dust.
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 zinc nitrate in it. Do not eat, drink, smoke, or use personal products when handling chemical substances.
Incompatibility	Avoid contact with combustibles (wood, paper, cotton) and other organics and readily oxidized materials.

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
	Zinc Nitrate (Zn(NO ₃) ₂)	Not Established	Not Established	Not Established	Not Established
	Water (H ₂ O)	Not Established	Not Established	Not Established	Not Established
Engineering Controls	Local or general exhaust. Eyewash and shower facilities should be available.				
Personal Protective Equipment	Eyes:	Chemical safety goggles and full face shield. No contact lenses.			
	Hands:	Impervious chemical protective gloves.			
	Respiratory:	None required under normal conditions. Self contained respiratory equipment should be used under spill conditions.			
	Protective Clothing:	Chemical resistant protective clothing should be worn			



Gloves



Goggles



Face Shield



Protective Clothing

Section 9 – Physical & Chemical Properties

Appearance and Odor	Colorless to pale yellow with no significant odor.	Gallons per Ton	150.4 (0.63 L/kg)
Boiling Point	>212°F (>100°C) at 1 atmosphere	Solubility in Water	100% (Highly soluble)
Freezing Point	No Data Available	Evaporative Rate	Similar to water
Vapor Pressure	No Data Available	pH	< 2
Weight per Gallon	13.3 lbs/gal at 60°F (1.59 kg/L @ 15.5°C)	Salt-Out Temp	45°F (7°C)
Flash Point	No Data Available	Specific Gravity	1.595 at 60°F
Flammability Limits	No Data Available	LEL	No Data Available
UEL	No Data Available		

Section 10 – Stability & Reactivity

Reactivity	Zinc Nitrate reacts with reducing agents, organic and oxidizable materials. Product may react with metallic powders.
Stability	Product is stable at standard temperature and pressure.
Hazardous Reactions	Enhances fire.
Conditions to Avoid	Elevated temperatures. Incompatible materials. Combustible materials. Reducing agents.
Incompatible Materials	Metal powders, cyanides, sodium hypophosphite, stannous chloride, phosphorous, thiocyanates, carbon, metallic sulfides, sulfur, organic materials. May react with reducing agents and combustible materials at elevated temperatures.
Hazardous Decomposition Products	Extreme heat may cause decomposing to toxic fumes of nitrogen oxides and zinc oxide. Hazardous polymerization will not occur.

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:	Causes irritation to the respiratory tract. Cough, fever, nausea, headache, shortness of breath and sore throat are possible. Metallic taste in mouth if inhaled may occur.	
	Ingestion:	Is irritating to the gastrointestinal tract. Can cause abdominal pain, vomiting, diarrhea, burning sensation and methemoglobinemia.	
Long Term Effects	None known. Effects typically last less than a day.		
Toxicity	Toxic levels have not been established for zinc nitrate.		
Carcinogen	The International Agency for Research on Cancer has not classified zinc nitrate for its carcinogenic potential (IARC 1987).		

Section 12 – Ecological Information

Toxicity	Acute toxicity:	LD50 - Oral - Rat	1,190 mg/kg
Persistence of degradability	No Data Available		
Bioaccumulation potential	This material is not expected to significantly bioaccumulate.		

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. Waste is hazardous		
Additional Information	This material is highly water soluble.		

Section 14 – Transport Information

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

UN ID Number	UN1514
Proper Shipping Name	Zinc Nitrate Solution
Hazard Class	5.1
Packing Group	PG II
US DOT Label	Oxidizer
Emergency Response Guide Number	140



This material is classified as a Dangerous Good per the IMDG Code.

UN ID Number	UN1514
Proper Shipping Name	Zinc Nitrate Solution
Hazard Class	5.1
Packing Group	PG II
Label	Oxidizer
EmS	F-H, S-Q



Canada Transportation of Dangerous Goods Information

UN ID Number	UN1514
Proper Shipping Name	Zinc Nitrate Solution
Hazard Class	5.1, 9.2
Packing Group	PG II



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 - No	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				
	Chemical	CAS No.	CERCLA RQ (lbs.)	SARA Reporting	

Zinc Nitrate	7779-88-6	2030.4 ⁽¹⁾	302 N/A	304 N/A	312 Yes
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⁽¹⁾ CERCLA Reportable Quantity for Zinc Nitrate is 1,000 pounds (100% basis).

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

Zinc nitrate solution is a hydrated form of zinc nitrate (nitric acid, zinc salt (2:1)) which is listed on the Active TSCA inventory.

Canadian
WHMIS
Information

General Product Information: All components are on the Canadian Domestic Substances or Non-Domestic Substances Inventory List
Component Analysis - WHMIS IDL: No components are listed in the WHMIS IDL
WHMIS Classification: Class C: Oxidizing Material; Class D2B: Material Causing Other Toxic Effects

Section 16 – Other Information

Date of Issue **11/19/2019**

Date of Revision November 2019 SDS updated with hazard and precautionary statements. January 2018 SDS to new format and review. February 2017 - added Canadian WHMIS Information to Section 15. September 2014 - updated TSCA statement and section 9. January 2013 - revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet GHS standards. April 2013 - update to storage and salt out temperatures.

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