

SAFETY DATA SHEET

ZINC NITRATE SOLUTION

Section 1 – Identification

Product	Zinc Nitrate Solution	Recommended Use:
Manufacturer	TradeMark Nitrogen Corp.	Used in the production of fertilizers and other chemicals.
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



Oxidizer

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



Respiratory Irritation

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

Zinc Nitrate is irritating to the respiratory and gastrointestinal tracts and to the eyes and skin. Wash thoroughly after contact.

Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by Weight
	Zinc Nitrate ($Zn(NO_3)_2$)	7779-88-6	49.25%
	Water (H_2O)	7732-18-5	50.75%

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 as necessary.
Skin Contact	If on skin (or hair): Remove 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. Give large volumes 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 bloods ability to transport oxygen causing headache, 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. Water spray may be used on the material and surrounding materials is recommended. Do not use dry chemicals or foam. CO_2 or halon may provide limited control.
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.
NFPA Rating	Health - 2 (Moderate), Fire - 0 (Least), Reactivity - 0 (Least) OX - Oxidizer



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Section 6 – Accidental Release Measure

Personal Precautions	Zinc Nitrate is an oxidizer. Avoid contact with skin.
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. Do not use saw-dust.
In Case of Spill	Absorb product with inert absorbent material. Avoid splashing or spraying. Contain and pick up spill in diked area. Prevent discharge to sewers or water ways. If uncontaminated, recover and reuse.

Section 7 – Handling and Storage

Precautions for Safe Handling and Storage	Store in a well ventilated warm 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.
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 Provide local exhaust ventilation and wash facilities.

Personal Protective Equipment Eyes - Chemical safety goggles and full face shield. No contact lenses.
Hands - Impervious gloves.

Respiratory - None required under normal conditions. Self contained respiratory equipment should be used under spill conditions.



Gloves



Goggles



Face Shield



Apron

Section 9 – Physical and Chemical Properties

Appearance and Odor	Colorless to pale yellow liquid with no significant odor.						
Boiling Point	> 212°F (>100°C) at 1 atmosphere		Specific Gravity		1.595 @60°F (15°C)		
Melting Point	N/A		Salt-Out Temp		45°F (7°C)		
Vapor Pressure	N/A		Evaporative Rate		Similar to water		
Solubility in water	100% (Highly soluble)		pH		< 2.0		
Weight per Gallon	13.3 lbs/gal @60°F (1.59 kg/L @15.5°C)		Gallon per Ton		150.4 (0.63 L/kg)		
Flash Point	N/A	Auto Ignition Temp	N/A	Flammability Limits	N/A	LEL N/A	UEL N/A

Section 10 – Stability and Reactivity

Reactivity	Zinc Nitrate reacts with reducing agents, organic and oxidizable materials..
Stability	Product is stable under normal conditions.
Hazardous Reactions	Enhances fire
Conditions to Avoid	Elevated temperatures.
Incompatible Materials	Materials to avoid include strong reducing agents, organic or other oxidizable materials, copper or brass.
Hazardous Decomposition Products	Extreme heat may cause decomposing to toxic fumes of nitrogen oxides and zinc oxide. Hazardous polymerization will not occur.



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Section 11 – Toxicology Information

Routes of Exposure	Zinc Nitrate can be taken into the body by inhalation, ingestion and absorption.
Symptoms and Signs of Exposure	Eye Causes irritation. May result in redness, tearing and blurred vision. Skin Causes irritation to the skin. May result in redness, itching and pain. Inhalation Causes irritation to the respiratory tract. Cough, fever, nausea, irritability, apathy, headache and shortness of breath are possible. Metallic taste in mouth if inhaled. Ingestion is irritating to gastrointestinal tract. Abdominal pain, burning sensation, upset stomach and cramps may occur.
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

Water	Low concentrations are harmful to fish and other aquatic organisms.
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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 - D001.
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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 1514
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 regulated as a Dangerous Good per the IMDG Code

UN ID Number	UN 1514
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	UN 1514
Proper Shipping Name	Zinc Nitrate Solution
Hazard Class	5.1, 9.2
Packing Group	PG II



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Section 15 – Regulatory Information

United States - SARA Hazard Category This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 302 and 313 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 Reauthorization Act of 1986 and 40 CFR Part 372:

Chemical	CAS No.	% by weight	CERCLA RQ (pounds)	SARA Reporting		
Zinc Nitrate	7779-88-6	49.25%	2030.4 ⁽¹⁾	No	No	Yes

⁽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 on the TSCA inventory list.

Canadian WHMIS Information **General Product Information:** All components are on the Canadian Domestic Substances or Non-Domestic Substances Inventory Lists.

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 Revision 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 Global Harmonization Standards. April 2013 - update to storage and salt-out temperatures.

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.



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