TRADEMARK NITROGEN

SAFETY DATA SHEET

ZINC NITRATE SOLUTION 50%

Section 1 – Identification

Product	ZINC NITRATE SOLUTION 50%	Recommended Use:	
		Used in various industrial applications.	
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	**Chemtrec Canada:**	1(703)-527-3887

Section 2 – Hazard Identification

GHS03

GHS07

GHS08

Signal Word: Danger

GHS Classification:

Oxidizing Liquids	Category 2
Corrosive Liquud	Category 1
Skin irritation	Category 1
Eye Damage	Category 1

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
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.
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 + P312	IF INHALED: Call a POISON CENTER or doctor / physician
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue risnsing.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do not induce vomiting
P332 + P313	If skin irritation occurs: Get medical advice / attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P340	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P362	Take off contaminated clothing and wash before reuses.
P403 + P233	Store in a well ventilated place. Keep container tightly closed
P406	Store in a corrosive resistant container
P501	Dispose of contents / container to local, regional, national, territorial, provincial and international regulations.

Hazard Statements

H272	May intesnify fire: oxidizer
H290	May be corrosive to metals
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life

Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by weight	Percent by metal
	Zinc Nitrate ($Zn(NO3)_2$)	7779-88-6	50.00%	17% Zn
	Water (H_20)	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 bloods 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 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) OXY - Oxidizer
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 area. 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 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_2O)	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 sheild. 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	Product is an oxidizer, may intensify 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 polymerzation will not occur.

Section 11 – Toxicology Information

Routes of Exposure	Inhalation, ingestion or skin/eye absorption	
Symptoms and Signs of Exposure	**Eyes:**	Burns, irritation, redness, watering eyes
	Skin:	Irritation, itchy, dry or rash on swollen reddened skin.
	Inhalation:	Causes irritation to the respiratory tract. Cough, fever, nausea, headache, shortness of breath and sore throat are possible. Metallic tase 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:		
Zinc Nitrate	7779-88-6	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	UN3093
Proper Shipping Name	UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Zinc Nitrate Solution) 8, PGII
Hazard Class	8 (5.1)
Packing Group	PG II
US DOT Label	Oxidizer
Emergency Response Guide Number	157

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

UN ID Number	UN3093
Proper Shipping Name	UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Zinc Nitrate Solution) 8, PGII
Hazard Class	8 (5.1)
Packing Group	PG II
Label	Oxidizer
EmS	F-H, S-Q

Canada Transportation of Dangerous Goods Information

UN ID Number	UN3093
Proper Shipping Name	UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Zinc Nitrate Solution) 8, PGII
Hazard Class	8 (5.1)
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		
			302	304	312
Zinc Nitrate	7779-88-6	2030.4[(1)]	N/A	N/A	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 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 **3/3/2023**

Date of Revision

March 2023 SDS updated to meet regulatory requirements. 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.

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.