

ZINC NITRATE SOLUTION 17% Zn

Section 1 – Identification

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|-------------------|---|------------------|--|
| Product | ZINC NITRATE SOLUTION 17% Zn | Recommended Use: | Used in agriculture as a micro nutrient fertilizer |
| Manufacturer | TradeMark Nitrogen Corp. | | |
| Address | 1216 Old Hopewell Road, Tampa, FL 33619 | | |
| Phone | (813) 626-1181 (800) 452-3107 | | |
| 24 Hour | Chemtrec | | |
| Emergency Contact | (800) 424-9300 | Chemtrec Canada: | 1(703)-527-3887 |

Section 2 – Hazard Identification



GHS03



GHS07



GHS08

Signal Word: Danger

GHS Classification:

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|-------------------|------------|
| Oxidizing Liquids | Category 2 |
| Corrosive Liquid | Category 1 |
| Skin irritation | Category 1 |
| Eye Damage | Category 1 |

Precautionary Statements:

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| 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 rinsing. |
| 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

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|-------------|-----------------------------------|
| H272 | May intensify 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(NO ₃) ₂) | 7779-88-6 | 50.00% | 17% Zn |
| | Water (H ₂ O) | 7732-18-5 | 50.00% | |

Section 4 – First Aid Measures

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| 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

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| 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

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| 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 In Case of Spill | 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. 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

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| Precautions for Safe Handling & Storage | Store in a well ventilated area. 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

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|---------------------|--|---------------------|-----------------------|
| 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

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| 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 polymerization will not occur. |

Section 11 – Toxicology Information

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| 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 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:
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 | | | | | | |
| Zinc Nitrate | 7779-88-6 | 2030.4 ⁽¹⁾ | N/A | N/A | 312 | 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 **General Product Information:** All components are on the Canadian Domestic Substances or Non-Domestic Substances Inventory List

Information **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.