

COPPER NITRATE 41% SOLUTION

Section 1 – Identification

Product	Copper Nitrate Solution - 14% Cu (41% Copper Nitrate Solution)	Recommended Use: As a component in a variety of industrial and manufacturing processes.
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	
Contact		

Section 2 – Hazard Identification



GHS05



GHS07



GHS08



GHS09

Signal Word: DANGER

Hazard Statements:

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H333	May be harmful if inhaled
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P260	Do not breathe mist or vapor
P262	Do not get in eyes, on skin, or on clothing
P264	Wash thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves / protective clothing / eye protection / face protection
P281	Use personal protective equipment as required
P391	Collect spillage
P301	IF SWALLOWED:
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P330	Rinse mouth
P331	Do NOT induce vomiting
P303	IF ON SKIN (or hair):
P353	Rinse skin with water / shower
P361	Remove / take off immediately all contaminated clothing
P363	Wash contaminated clothing before reuse
P304	IF INHALED:
P340	Remove person to fresh air and keep at rest in a position comfortable for breathing
P305	IF IN EYES:
P351	Rinse cautiously with water for several minutes
P338	Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

P403 Store in a well ventilated place
 P404 Store in a closed container
 P233 Keep container tightly closed

Disposal:

P501 Dispose of contents / container in accordance with local / regional / national / international regulations.

Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by Weight
	Copper Nitrate (Cu(NO ₃) ₂)	3251-23-8	41%
	Nitric Acid (HNO ₃)	7697-37-2	<1%
	Water (H ₂ O)	7732-18-5	Balance

Section 4 – First Aid Measures

Inhalation	If inhaled: Remove person to fresh air and keep comfortable for breathing. Provide artificial if necessary. Seek medical attention if necessary.
Skin Contact	If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water for at least minutes.
Eye Contact	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and 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 to an unconscious person. Seek medical attention.
Acute Health Hazards	Highly corrosive. Causes severe skin burns and eye damage.
Chronic Health Hazards	May cause damage to soft tissue with repeated exposure.

Section 5 – Fire Fighting Measures

Suitable Extinguishing Techniques & Equipment	This product is an aqueous solution. It is non-flammable and presents no fire hazard.
Chemical Hazards From Fire	In a fire, copper and nitrogen oxides and ammonia may be present. Keep material wet to prevent nitrate salts from forming as they can support combustion or become unstable.
Special Fire Fighting Procedures	Use extinguishing agent most appropriate to surrounding materials.
NFPA Rating	Health - 2 (Moderate) Fire - 0 (Least) Reactivity - 1 (Slight)
Other	Do not allow run-off from fire fighting to enter drains or water courses.

**Section 6 – Accidental Release Measure**

Personal Precautions	Avoid splashing. Prevent exposure to spilled material with the use of proper PPE.
Protective Equipment	PPE should include gloves, goggles or safety glasses 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 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 place.

Incompatibility Avoid contact with readily oxidizable materials, alkaline substances and reducing agents.

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
	Copper Nitrate (Cu(NO ₃) ₂)	1mg/m ³ (as Copper mist or dust)	1mg/m ³ (as Copper mist or dust)	4mg/m ³ (as Copper mist or dust)	Not Established
	Nitric Acid (HNO ₃)	2 ppm	2 ppm (TWA)	4 ppm	25 ppm
	Water (H ₂ O)	Not Established	Not Established	Not Established	Not Established

Engineering Controls Local or general exhaust. Eyewash facilities should be available.

Personal Protective Equipment
 Eyes Chemical safety goggles or safety glasses.
 Hands Impervious gloves.
 Respiratory None required under normal conditions. NIOSH approved respirator if there is a mist of the product.

Protective Clothing



Gloves



Goggles



Safety Glasses

Section 9 – Physical & Chemical Properties

Appearance and Odor	Clear blue liquid.	Specific Gravity	1.47 at 60°F (15°C)
Boiling Point	> 212°F (100°C) at 1 atmosphere	Molecular Weight	N/A
Vapor Pressure	N/A	Solubility in Water	Soluble in water
Density	12.26 lbs/gal @ 64°F (1.52 kg/L @ 17.8°C)	Evaporative Rate	N/A
Salt-Out Temp	<2.0°F (-16.7°C)	pH	<0.5
Flash Point	N/A	Auto Ignition Temp	N/A
Flammability Limits	N/A	LEL	N/A
Gallons per Ton	163.13	UEL	N/A

Section 10 – Stability & Reactivity

Reactivity	Product is not reactive under normal conditions.
Stability	Product is stable under normal conditions.
Hazardous Reactions	Hazardous polymerization will not occur.
Conditions to Avoid	Do not allow product to mix with strong bases.
Incompatible Materials	Avoid contact with readily oxidizable materials, alkaline substances and reducing agents.
Hazardous Decomposition Products	Extreme heat may cause decomposing to toxic fumes of nitrogen oxides. Hazardous decomposition will not occur.

Section 11 – Toxicology Information

Routes of Exposure	Inhalation, ingestion or skin/eye absorption.	
Symptoms and Signs of Exposure	Eyes	Causes irritation, pain, reddening, and may result in blindness, depending on the duration of exposure.
	Skin	Depending on duration of contact, symptoms will include reddening, discomfort, irritation, ulceration, and chemical burns.
	Ingestion	Can be harmful or fatal. Immediately upon contact, this product will cause irritation and burns of the mouth, throat, esophagus, and other tissues of the system. Overexposure symptoms include: drowsiness, confusion, swallowing, a burning sensation in the esophagus and stomach, intense abdominal pain, vomiting, diarrhea, stomach perforation, bloody stools or urine, convulsions, and collapse. Large quantity ingestion may be fatal. The nitrate component may reduce the blood's ability to transport oxygen causing headache, fatigue, dizziness and blue lips and skin (methemoglobinemia). Symptoms may be delayed.
Long Term Effects	Inhalation	Can cause eye, nose, throat, and respiratory irritation or coughing, burns.
	Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis.	
Toxicity	Copper Nitrate	LD ₅₀ Oral (rat): 940 mg/kg
	Nitric Acid	LC ₅₀ Inhalation (rat): 7 mg/L - 4 hr LC ₅₀ Inhalation (rat): 334 ppm - 30 min
Carcinogen	None of this product's components are listed by ACGIH, OSHA, NIOSH or NTP as carcinogenic. IARC: 2A Probably carcinogenic to humans (Nitrates (ingested) under conditions that result in nitrosation)	

Section 12 – Ecological Information

Ecotoxicity	Acute Toxicity:	Acute Toxicity:
	Crustaceans	Fish
	Copper Nitrate (Cu(NO ₃) ₂) (3251-23-8)	Oncorhynchus Kisutch (Coho Salmon)
	LC ₅₀ - 96h: 141 ug/L	LC ₅₀ - 96h: 286 ug/L
Mobility in Soil	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. EPA waste number: D002 (Corrosivity).
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Section 14 – Transport Information

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

UN ID Number UN3264
Proper Shipping Name Corrosive Liquid, acidic, inorganic, N.O.S. (Copper Nitrate, Nitric Acid)
Hazard Class 8.0
Packing Group PG II
US DOT Label 8
Authorized Packaging Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HD2 and 31HH2).
Marine Pollutant Dangerous to aquatic life in any concentrations.
Emergency 154



IMDG: This material is hazardous as defined by IMDG

UN ID Number UN3264
Proper Shipping Name Corrosive Liquid, acidic, inorganic, N.O.S. (Copper Nitrate, Nitric Acid)
Hazard Class 8
Packing Group PG II
US DOT Label 8
Marine Pollutant Dangerous to aquatic life in any concentrations.
Authorized Packaging Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HD2 and 31HH2).
EmS F-A, S-B



Canada TDG: This material is hazardous as defined by Canada Transportation of Dangerous Goods

UN ID Number UN3264
Proper Shipping Name Corrosive Liquid, acidic, inorganic, N.O.S. (Copper Nitrate, Nitric Acid)
Hazard Class 8
Packing Group PG II
TDG Label Corrosive



IATA: This material is hazardous as defined by IATA

UN ID Number UN3264
Proper Shipping Name Corrosive Liquid, acidic, inorganic, N.O.S. (Copper Nitrate, Nitric Acid)
Hazard Class 8
Packing Group PG II
TDG Label Corrosive



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 considered, under applicable definitions, to meet the following categories:

Fire - No Pressure - No Reactive - No Acute - Yes Chronic - Yes

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		
Copper Nitrate (Cu(NO ₃) ₂)	3251-25-8	100 lbs. (45.4 kg)	302 Yes	311/312 Yes	313 Yes ⁽¹⁾

⁽¹⁾ As copper compounds

CERCLA / Superfund, 40 CFR Part 117, 302 - If this product contains components subject to substances designated as CERCLA reportable (RQ) Substances, it will be designated in the above table with the RQ value in pounds. If release of RQ Substance to the environment, notification to the National Response Washington DC (800-424-8802) is required.

TSCA - Copper Nitrate Solution (Nitric Acid, Copper(2+) salt (2:1)) is on the TSCA inventory list.

Section 16 – Other Information

Issue Date - 5/6/2019

Date of Revision - May 2019 revised physical and chemical data in section 9. January 2019 revised to update technical April 2018 original version prepared in accordance with 29 CFR 1910.1200 Appendix D to Global Harmonization Standards.

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