

## Copper Nitrate 41%

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Copper Nitrate 41%

**Synonyms/Generic Names:** Cupric nitrate, Copper (II) nitrate

**Product Number:** 1641

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Call:** 920-623-2140 (Monday-Friday 8:00-4:30)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**Signal Word:** Danger

**Pictograms:**



**GHS Classification:**

Oxidizing Liquid	Category 2
Corrosive Liquid	Category 1
Skin Corrosion	Category 1B
Serious eye damage	Category 1
Acute toxicity, oral	Category 4
Hazardous to the aquatic environment, acute hazard	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 2

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.

H411	Toxic to aquatic life with long lasting effects.
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**Precautionary Statements:**

P210	Keep away from heat/sparks/open flames/hot surfaces. No Smoking.
P220	Keep/Store away from combustible.
P221	Take any precaution to avoid mixing with combustibles.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands 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.
P310	Immediately call a POISON CENTER or doctor/physician.
P320	Specific treatment is urgent (see label/SDS)
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage. Hazardous to the aquatic environment.
P370+P378	In case of fire: Use water spray, foam for extinction.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable from breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P404+P405	Store in closed container. Store locked up.
P501	Dispose of contents / container in accordance with local / national regulations.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation/damage.
<b>Inhalation</b>	Harmful if inhaled. Causes respiratory tract burns/irritation.
<b>Skin</b>	Causes severe skin burns
<b>Ingestion</b>	Harmful if swallowed. Causes burns/irritation.

**NFPA Ratings**

<b>Health</b>	3
<b>Flammability</b>	0
<b>Reactivity</b>	1
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	1

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Copper (Cupric) nitrate	40-42	3251-23-8	221-838-5	CuN <sub>2</sub> O <sub>6</sub>	187.56 g/mol
Nitric acid	0-5	7697-37-2	231-714-2	HNO <sub>3</sub>	63.01 g/mol
Water	Balance	7732-18-5	231-791-2	H <sub>2</sub> O	18.00 g/mol

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## 4. FIRST-AID MEASURES

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<b>Eyes</b>	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention.
<b>Inhalation</b>	Move to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Remove contaminated clothing. Flush with plenty of water and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

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## 5. FIRE-FIGHTING MEASURES

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<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use water spray, foam, or appropriate media for adjacent fire.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes copper (containing) compounds, nitrogen oxides, acrid vapors) under fire conditions. (See also Stability and Reactivity section).

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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Hazardous to the aquatic environment. Collect spillage. Prevent spillage from entering drains.
<b>Methods and materials for containment and cleaning up</b>	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Avoid formation of aerosols.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from heat/sparks/open flames/hot surfaces. Store in original closed container and locked up when not in use. Keep/Store away from combustible. Keep away from incompatible materials (see section 10 for in-compatibilities).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Copper (Cupric) Nitrate (mists as Copper)	1 mg/m <sup>3</sup>	TWA	NIOSH
	1 mg/m <sup>3</sup>	TWA	ACGIH
	1 mg/m <sup>3</sup>	TWA	OSHA

Copper (Cupric) Nitrate (fume as Copper)	0.1 mg/m <sup>3</sup>	TWA	OSHA
	0.2 mg/m <sup>3</sup>	TWA	ACGIH
	0.1 mg/m <sup>3</sup>	TWA	NIOSH
Nitric acid	2 ppm (5 mg/m <sup>3</sup> )	TWA	OSHA
	2 ppm (5.2 mg/m <sup>3</sup> )	TWA	ACGIH
	2 ppm (5 mg/m <sup>3</sup> )	TWA	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses, face shield or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear rubber suits (acid resistant) for unloading. Rubber gloves/nitrile/acid resistant.
<b>Other</b>	Wash hands thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Wash contaminated clothing before reuse.

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Dark blue liquid.
Odor	Acid, Acid odor
Odor threshold	Not Available
pH	<2
Melting point/freezing point	Not Available
Initial boiling point and boiling range	~224 °F (106 °C)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Density	1.430-1.660 g/ml @ 60 °F/ 15 °C (water = 1)
Solubility (ies)	Soluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Non-flammable
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Strong alkalies, cyanides
<b>Incompatible Materials</b>	Strong alkalies, cyanides, active metals

<b>Hazardous Decomposition Products</b>	Nitrogen oxides.
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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

#### *Copper (cupric) nitrate*

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 – Rat – 794 mg/kg

#### *Nitric acid*

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50 – Rat – 130 mg/m <sup>3</sup> – 4 hours
<b>Ingestion</b>	Not Available

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Clinical signs of cyanosis, itching, redness, pain.
<b>Eyes</b>	Severe irritation, eye burns, conjunctivitis, ulceration of cornea.
<b>Respiratory</b>	Burns, Irritation to nose and throat, coughing.
<b>Ingestion</b>	Burns, nausea, vomiting.

<b>Chronic Toxicity</b>	Dermatitis
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not considered a mutagen
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

#### *Coper (cupric) nitrate*

<b>Aquatic Vertebrate</b>	LC50 – <i>Pimephales promelas</i> (fathead minnow) – 23 ug/L – 96 hr LC50 – <i>Lepomis macrochirus</i> (bluegill) – 236 ug/L – 96 hr as related to Copper LC50 – <i>Oncorhynchus miskiss</i> (rainbow trout) – 14 ug/L – 96 hr
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	EC50 – Algae – 120 ug/L – 72 hrs as related to Copper

Nitric acid

<b>Aquatic Vertebrate</b>	LC50 – <i>Asterias rubens</i> (starfish) – 100.00 mg/L – 96 hr
<b>Aquatic Invertebrate</b>	LC50 – <i>Carcinus maenas</i> (Littoral crab) – 180.00 mg/L – 96 hr
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	This product contains no PBT/vPvB chemicals
<b>Other Adverse Effects</b>	Not Available

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### 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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### 14. TRANSPORTATION INFORMATION

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US DOT	UN3093, Corrosive liquids, oxidizing, n.o.s. (Cupric Nitrate), 8 (5.1), pg II
TDG	UN3093, CORROSIVE LIQUIDS, OXIDIZING, N.O.S. (CUPRIC NITRATE), 8 (5.1), PG II
IMDG	UN3093, CORROSIVE LIQUIDS, OXIDIZING, N.O.S. (CUPRIC NITRATE), 8 (5.1), PG II
Marine Pollutant	Yes
IATA/ICAO	UN3093, Corrosive liquids, oxidizing, n.o.s. (Cupric Nitrate), 8 (5.1), pg II

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### 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Massachusetts: Toxic or Hazardous Substance List	Listed: Cupric nitrate
Pennsylvania: Hazardous Substance List	Listed: Cupric nitrate, Nitric acid
New Jersey: Right to Know Hazardous Substance List	Listed: Cupric nitrate, Nitric acid
Rhode Island: Hazardous Substance List	Listed: Cupric nitrate, Nitric acid
SARA 302	Listed: Nitric acid
SARA 304	Listed: Nitric acid
SARA 311	Fire Hazard, Reactivity Hazard, Acute Health Hazard
SARA 312	Fire Hazard, Reactivity Hazard, Acute Health Hazard
SARA 313	Listed: Cupric nitrate, Nitric acid
WHMIS Canada	Class C: Oxidizing material Class E: Corrosive material

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## 16. OTHER INFORMATION

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Revision	Date
Created	08/17/2020

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