





Copper(II) Nitrate Trihydrate		Pricing >
Linear Formula	Cu(NO ₃) ₂ • 3H ₂ O	
Pubchem CID	9837674	
MDL Number	MFCD00149671	
EC No.	221-838-5	
IUPAC Name	copper; dinitrate; trihydrate	
Beilstein/Reaxys No.	N/A	
SMILES	[N+](=O)([O-])[O-].[N+](=O)([O-])[O-].O.O.O.[Cu+2]	
InchI Identifier	InChI=1S/Cu.2NO3.3H2O/c;2*2-1(3)4;;;/h;;;3*1H2/q+2;2*-1;;;	
InchI Key	SXTLQDJHRPXDSB-UHFFFAOYSA-N	
Signal Word	Danger	
Hazard Statements	H272-H302-H315-H318-H400	
Hazard Codes	O, C, N	
Precautionary Statements	P220-P273-P280-P305+P351+P338	
Risk Codes	8-22-38-41-50/53	
Safety Statements	26-39-60-61	
RTECS Number	GL7875000	
Transport Information	UN 1477 5.1/PG 2	
WGK Germany	3	
GHS Pictograms	GHS03 Oxidizer  GHS05 Corrosive  GHS07 Exclamation Point  GHS09 Environment 	

SAFETY DATA SHEET

Date Accessed: 04/30/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #10031-43-3

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Oxidizing solids(Category 2), H272
Acute toxicity, Oral(Category 4), H302
Skin irritation(Category 2), H315
Serious eye damage(Category 1), H318
Acute aquatic toxicity(Category 1), H400
GHS Label elements, including precautionary statements
Pictogram



Signal word
Danger
Hazard statement(s)
H272
May intensify fire; oxidizer.
H302
Harmful if swallowed.
H315
Causes skin irritation.

H318

Causes serious eye damage.

H400

Very toxic to aquatic life.

Precautionary statement(s)

P210

Keep away from heat.

P220

Keep/Store away from clothing/ combustible materials.

P221

Take any precaution to avoid mixing with combustibles.

P264

Wash skin thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P273

Avoid release to the environment.

P280

Wear protective gloves/ eye protection/ face protection.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Rinse mouth.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 + P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P332 + P313

If skin irritation occurs: Get medical advice/ attention.

P362

Take off contaminated clothing and wash before reuse.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P391

Collect spillage.

P501

Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS-none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Synonyms: Cupric nitratetrihydrate
Formula: $\text{CuN}_2\text{O}_6 \cdot 3\text{H}_2\text{O}$
Molecular weight: 241.60 g/mol
CAS-No.: 10031-43-3
EC-No.: 221-838-5

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Continue rinsing eyes during transport to hospital.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas.

Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition -No smoking. Keep away from heat and sources of ignition.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

Heat sensitive.

Moisture sensitive.

Storage class (TRGS 510):

Oxidizing hazardous materials

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Form: crystalline

Colour: dark blue

Odour

No data available

Odour Threshold

No data available
pH
No data available
Melting point/freezing point
No data available
Initial boiling point and boiling range
No data available
Flash point
Not applicable
Evaporation rate
No data available
Flammability (solid, gas)
No data available
Upper/lower flammability or explosive limits
No data available
Vapour pressure
No data available
Vapour density
No data available
Relative density
No data available
Water solubility
No data available
Partition coefficient: n-octanol/water
No data available
Auto-ignition temperature
No data available
Decomposition temperature
No data available
Viscosity
No data available
Explosive properties
No data available
Oxidizing properties
The substance or mixture is classified as oxidizing
with the category 2.
Other safety information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
No data available
Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
No data available
Conditions to avoid
Heat Avoid moisture.
Incompatible materials
Reducing agents, Organic materials, Powdered
metals
Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.-Nitrogen oxides (NOx), Copper oxides
Other decomposition products-No data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD50 Oral-Rat-940 mg/kg

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Rat

Ascites tumor

Cytogenetic analysis

Carcinogenicity

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity -single exposure

No data available

Specific target organ toxicity -repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
RTECS: GL7875000
Material is extremely destructive to tissue of the
mucous membranes and upper respiratory tract, eyes,
and skin., Cough, Shortness of breath, Headache,
Nausea
To the best of our knowledge, the chemical, physical,
and toxicological properties have not been
thoroughly investigated.
Stomach-Irregularities-Based on Human Evidence
Stomach-Irregularities-Based on Human Evidence

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical
safety assessment not required/not conducted
Other adverse effects
An environmental hazard cannot be excluded in the
event of unprofessional handling or disposal.
Very toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
Burn in a chemical incinerator equipped with an
afterburner and scrubber but exert extra care in
igniting as this material is highly flammable.
Offer surplus and non-recyclable solutions to a
licensed disposal company.
Contact a licensed professional waste disposal
service to dispose of this material.
Dissolve or mix the material with a combustible
solvent and burn in a chemical incinerator
equipped with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN number: 1477

Class: 5.1

Packing group: II

Proper shipping name: Nitrates, inorganic,
n.o.s.(Copper(II) nitrate trihydrate)

Reportable Quantity(RQ): 100lbs

Poison Inhalation Hazard: No

IMDG

UN number: 1477

Class: 5.1

Packing group: II

EMS-No: F-A,S-Q

Proper shipping name: NITRATES, INORGANIC,
N.O.S.(Copper(II) nitrate trihydrate)

Marine pollutant:yes

IATA

UN number:1477

Class: 5.1

Packing group: II

Proper shipping name: Nitrates, inorganic, n.o.s.

SECTION 15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the
reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting
levels established by SARA Title III, Section 313:

Copper(II) nitrate trihydrate

CAS-No.

10031-43-3

Revision Date

1993-04-24

SARA 311/312 Hazards

Reactivity Hazard, Acute Health Hazard, Chronic
Health Hazard

Massachusetts Right To Know Components

Copper(II) nitrate trihydrate

Pennsylvania Right To Know

Components

Copper(II) nitrate trihydrate

CAS-No.

10031-43-3

Revision Date

1993-04-24

New Jersey Right To Know Components

Copper(II) nitrate trihydrate
CAS-No.
10031-43-3
Revision Date
1993-04-24
California Prop. 65 Components
This product does not contain any chemicals known to
State of California to cause cancer, birth defects, or
any other reproductive harm.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No.
1907/2006 (REACH). The above information is
believed to be correct but does not purport to be all
inclusive and shall be used only as a guide. The
information in this document is based on the present
state of our knowledge and is applicable to the
product with regard to appropriate safety precautions.
It does not represent any guarantee of the properties
of the product. American Elements shall not be held
liable for any damage resulting from handling or from
contact with the above product. See reverse side of
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