SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Copper(II) nitrate, trihydrate
CAS number	10031-43-3
Synonyms	Cupric nitrate trihydrate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing Solids	Category 2
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity (single exposure)	Category 3
Target Organ(s) - Respiratory system	

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word: Danger

Hazard statements:
May intensify fire; oxidizer.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary statements:
Prevention: Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/ other combustible materials. Take any precaution to avoid mixing with combustibles.

Response: Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

Fire: In case of fire, use CO2, dry chemical, or foam for extinction.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

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

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration

Copper(II) nitrate trihydrate	Cupric nitrate trihydrate	10031-43-3	>95%
Copper(II) nitrate	Cupric nitrate	3251-23-8	-

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

In case of skin contac Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

If swallowed Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media CO_2, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

The product causes burns of eyes, skin, and mucous membranes. Oxidizer: Contact with combustible/organic material maycausefire. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses. Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.
Lower No data available.

Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	3	3	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes, or clothing.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Keep away from clothing and other combustible materials. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed, seek immediate medical assistance.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep in properly labeled containers. Do not store near combustible materials. Corrosives area.

Incompatibilities
Ammonia. Cyanides. Acid anhydrides. Strong reducing agents. Combustible material.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. ACGIH Threshold Limit Values

Component	Type	Value
Cupric nitrate trihydrate	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Cupric nitrate trihydrate	IDLH	100 mg/m3
	TWA	1 mg/m3

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	Blue
Odor	Odorless
Odor Threshold	No information available
pH	4.0, 2M aq.sol
Melting Point/Range	114 °C / 237.2 °F
Boiling Point/Range	No information available
Evaporation Rate	Not applicable
Flammability (solid)	No information available
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	No information available
Vapor Density	Not applicable
Density	No information available
Solubility	267 g/100 mL
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	Not applicable
Molecular Formula	CuN2O6 . 3H2O
Molecular Weight	241.6 g/mol
VOC Content(%)	No information available
Oxidizing properties	Oxidizer

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Oxidizer.

10.2 Chemical stability

Moisture sensitive. Oxidizer: Contact with combustible/organic material may cause fire.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Excess heat. Incompatible products. Exposure to moisture. Exposure to air or moisture over prolonged periods. Combustible material.

10.5 Incompatible materials
Ammonia, Cyanides, Acid anhydrides, Strong reducing agents, Combustible material.

10.6 Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity
No information available.

Skin corrosion/irritation
Causes burns by all exposure routes.

Serious eye damage/eye irritation
Causes burns by all exposure routes.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Cupric nitrate trihydrate	10031-43-3	Not listed	Not listed	Not listed	Not listed	Not listed
Cupric nitrate	3251-23-8	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure
Respiratory system.

Specific target organ toxicity - repeated exposure
None known.

Reproductive toxicity
No information available.

Chronic effects
Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

11.2 Additional Information
No information available.

SECTION 12: Ecological information

12.1 Toxicity
The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Product		Species	Test Results
Cupric nitrate	LC50	Freshwater Fish	0.29 mg/L/96h
	EC50	Water Flea	0.026 mg/L/48h

12.2 Persistence and degradability
May persist based on information available.

12.3 Bio accumulative potential
No information available.

12.4 Mobility in soil
Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment
No information available.

12.6 Endocrine disrupting properties
No information available.

12.7 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no	UN3085
Proper Shipping Name	Oxidizing solid, corrosive, n.o.s.
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

IMDG

UN-no	UN3085
Proper Shipping Name	Oxidizing solid, corrosive, n.o.s.
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

IATA

UN-no	UN3085
Proper Shipping Name	Oxidizing solid, corrosive, n.o.s.
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Cupric nitrate (CAS #3251-23-8), RQ: 100 lb.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Listed, Cupric nitrate trihydrate (CAS #10031-43-3).
Listed, Cupric nitrate (CAS #3251-23-8).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA)

Listed, Cupric nitrate trihydrate (CAS #10031-43-3).
Listed, Cupric nitrate (CAS #3251-23-8), RQ: 100 lb.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Cupric nitrate (CAS #3251-23-8).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Cupric nitrate trihydrate (CAS #10031-43-3).
Listed, Cupric nitrate (CAS #3251-23-8).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Cupric nitrate trihydrate (CAS #10031-43-3).
Listed, Cupric nitrate (CAS #3251-23-8).

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 08/05/2024
Revision Date: 11/06/2026

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.