

Material Safety Data Sheet.

1. IDENTIFICATION

Product Identifier: Copper Citrate 10% trit. on DCP
Other Means of Identification: N/A
Synonyms: Copper citrate triturated on Dicalcium Phosphate
Chemical Formula: $\text{Cu}_3(\text{C}_6\text{H}_5\text{O}_7)_2$
Chemical Family: N/A
CAS Number: N/A
Recommended Use: Laboratory chemicals, Synthesis of substances, pharmaceutical ingredients.
Restrictions on Use: Information is not available.
Initial Supplier Identifier: Gurvey & Berry Co. Inc.
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Toronto, ON, Canada, M8Z 5T6
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2. HAZARD IDENTIFICATION

GHS Classification in accordance with Hazardous Products Regulations (HPR) OR/2015-17)

Hazard class	Hazard class and category	Hazard statement
Acute toxicity oral	4	H302
Hazardous to the Aquatic Environment – Short-term Acute Hazard	1	H400
Hazardous to the Aquatic Environment – Long-term (Chronic) Hazard	1	H410



Pictograms:

Signal word:

Warning!

Hazard statements

H302 Harmful if swallowed.
 H402 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects

Precautionary statements – prevention.

P264 Wash hands, skin, and contaminated clothing thoroughly after handling.
 P270 Do not eat, drink, or smoke when using this product.
 P273 Avoid release to the environment.

Precautionary statements – response

P301 + P317+330 IF SWALLOWED: Rinse mouth. Get medical help.
 P391 Collect spillage.

Precautionary statements – storage N/A**Precautionary statements - disposal**

P501 Dispose of contents/container to an approved disposal plant and in accordance with local, provincial, federal regulations.

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

Material may cause respiratory irritation, skin irritation and eye irritation, even there is not enough data for classification. Can be harmful to lungs, liver, and kidneys with long-term unprotected exposure.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration	Common name / Synonyms
Copper Citrate	N/A	31-37%	See section 1
Dicalcium Phosphate	7757-93-9	63 - 69%	DCP

Notes:**4. FIRST-AID MEASURES****First aid measures by route of exposure:**

General: Avoid breathing dust
 Wash hands, skin, and contaminated clothing thoroughly after handling.
 Do not eat, drink, or smoke when using this product.
 Use in a well-ventilated area.
 Wear protective gloves/clothing and eye/face protection.

After Ingestion: Rinse mouth. Get medical help.

After Inhalation: Remove person to fresh air and keep comfortable for breathing. Get medical help if you feel unwell.

After Eye Contact: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.
Do not allow victim to rub eyes or keep them closed.

After Skin Contact:

Wash with plenty of water.
If skin irritation occurs: Get medical help.

Most Important Symptoms and Effects, Acute and Delayed:

Symptoms/effects after ingestion: May cause abdominal pain, nausea, vomiting and diarrhea.

Symptoms/effects after long – term exposure through inhalation

of dust: Dry/sore throat and nose. Coughing. Headache and dizziness. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

Symptoms/effects after skin contact: Causes skin irritations.

Symptoms/effects after eye contact: Causes eye irritation. Causes redness and pain, tearing, swelling.

Medical Conditions Aggravated

By Exposure: Target organs and systems: gastrointestinal tract, liver, kidney, respiratory tract.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

In case of fire use water mist, dry chemical, chemical foam, alcohol-resistant foam, or carbon dioxide.

Unsuitable Extinguishing Media: Do not use water jet.

Special Hazards Arising from the Product:

Decomposition Products – carbon monoxide, and carbon dioxide, metallic copper, copper fumes, copper oxides

Special Protective Equipment and Precautions for Fire-Fighters:

As in any fire, wear a self-contained breathing apparatus and full protective gear.

During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Further information. Prevent fire extinguishing water from contaminating surface water or the ground water system.

When heated to decomposition, may produce metal oxides and fumes, inhalation of high concentrations of metal fumes may cause a condition known as “metal fume fever” which is characterized by flu-like symptoms.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Communicate hazard.
Evacuate unprotected personnel to safe areas.
Wear personal protective equipment. (see section 8).
Remove all sources of ignition.
Ensure adequate ventilation. Avoid breathing dust.
Prevent further spill if safe to do so.
Wash hands thoroughly with mild soap and water after handling this material.

Methods and materials for containment and cleaning up

Small spill

Wear Personal protective equipment (see section 8).
Prevent further spillage if safe to do so.
Avoid generation of dusts. Use dust suppressant agent.
Sweep up and shovel into designated, labeled, closed waste containers for disposal.
Dispose of containers in accordance with local, regional, and federal authority requirement.

Large spill.

Assess if you can handle the spill.
Local authorities should be advised if significant spillages cannot be contained.
Copper is classified as pollutant under the Clean Water Act and its release to the environment should be prevented.
Get advice from emergency services if necessary.
Wear Personal protective equipment (see section 8).
Prevent further spillage if safe to do so.
Avoid generation of dusts.
If feasible, shovel into designated, labeled, closed waste containers for disposal.
Cover drains. Finish cleaning by spreading water on the contaminated surface.
Collect wastewater and dispose with a licensed disposal company.
Dispose of containers in accordance with local, regional, and federal authority requirement.

Environmental precautions

This material is harmful to aquatic life and environment.

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION

Reference to other sections

See section 1 for emergency contact.
See section 8 for information on appropriate personal protective equipment.
See section 13 for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Always wear personal protective equipment (see section 8)
Avoid contact with eyes, skin, and clothing.
Avoid ingestion and inhalation.
Use with adequate ventilation.

For precautionary statements see also section 2.2

Wash hands thoroughly after handling.

Do not eat, drink, or smoke in the area.

Conditions for Safe Storage: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Protect from heat and sunlight. Keep away from ignition sources.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV® (USA)		OSHA PEL (USA)	
	TWA 8 hours	STEL	TWA 8 hours	STEL
Copper Citrate 10% on DCP	Fumes 2 mg/m ³ Dusts 10mg/m ³	N/A	1 mg/m ³ for fumes 10 mg/m ³ for dust	N/A

Consult local authorities for acceptable exposure limits.

Appropriate Engineering Controls: Local and/or general exhaust ventilation is required.
Eyewash station and safety shower required.

Personal Protection Measures (e.g. personal protective equipment):

Eye/face protection Safety glasses with side-shields for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN (EU).

Skin and body protection Full body protective clothing, boots, gloves. Handle with gloves compatible with this material. Gloves must be inspected prior to use.

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 Do not let product enter drains or ground.
This material is harmful to aquatic life.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form:	Powder
Color:	Light green
Molecular Weight:	568.84 (copper citrate only)
Odour:	Characteristic
Odour Threshold:	No data available
pH:	No data available
Melting Point/freezing point:	No data available
Initial boiling point/boiling range:	No data available
Flash Point:	155 C
Evaporation Rate:	No data available
Flammability (solid; gas):	No data available
Upper flammability or explosive limits	No data available
Lower flammability or explosive limits	No data available
Vapor Pressure (mmHg):	No data available
Vapor Density (air=1):	No data available
Relative Density (water=1):	No data available
Solubility in Water:	Limited
Solubility in Other Agents:	No data available
Partition coefficient (n-octanol/water)	No data available
Autoignition	No data available
Decomposition	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Other information:	

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:	Exposure to moisture and heating.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	formed under fire conditions – Carbon oxides, Copper, Copper fumes, Cooper oxide
Other decomposition products	No data available
In the event of fire:	see section 5

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Ingestion:	Yes
Inhalation:	Yes
Skin contact:	Yes
Eye contact:	Yes
Acute Toxicity Oral LD₅₀:	

Copper citrate Trit. On DCP:

LD50 – Oral, rat 4155 mg/kg

Calculated from the following:

Copper citrate

LD50 – Oral Rodent - rat 1385 mg/kg

LC50 No data available

Dicalcium Phosphate LD50 7940 mg/kg (oral rat female)

Skin corrosion/irritation: May cause skin irritation.

Serious Eye Damage/irritation: May cause eye irritation.

Respiratory and/or Skin

Sensitization: No data available

Aspiration Toxicity: No data available

STOT (Specific Target Organ Toxicity)

Single Exposure: May cause respiratory irritation.

STOT (Specific Target Organ Toxicity)

Repeated Exposure: Lungs, kidneys, liver

Carcinogenicity:

IARC Not listed.

ACGIH® Not listed.

OSHA Not listed.

Reproductive Toxicity: No data available

Germ Cell Mutagenicity: Ames test
Salmonella typhimurium
Result: negative

Interactive Effects No data available

Additional Information

12. ECOLOGICAL INFORMATION

Ecotoxicity:

LC50 810 ug/l 96h Cyprinus carpio,

EC50 33.8-792 ug/l 48h Daphnia magna,

EC50 0.55 mg/l 12h shell

Persistence and degradability:

No data available

Bioaccumulative potential:

Will accumulate in soil and water.

Mobility in soil:

No data available

Other adverse effects:

This material is harmful to aquatic life. Toxic to aquatic life with long lasting effects.

Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS

Wastes of Residues: Package product wastes.
Close and label the waste receptacles and any unclean empty containers.
Dispose of according to local, provincial, and federal regulations.

Contaminated Packaging: Do not reuse containers. Dispose of as unused product.

14. TRANSPORT INFORMATION

Not dangerous goods for transport. Keep separated from foodstuffs.

15. REGULATORY INFORMATION

CANADA DSL/NDSL: CAS# 866-82-0 for COPPER CITRATE HEMITRIHYDRATE or 1,2,3Propanetricarboxylic acid, 2-hydroxy-, copper(2+) salt (1:2) is listed on the NDSL.

16. OTHER INFORMATION

This information is based upon knowledge currently available.
More detailed information on the physical and chemical properties can be requested from the supplier. To the best of our knowledge, the information contained herein is accurate and complete. However, this should not be construed to imply any warranty or guarantee. Gurvey & Berry Co. Inc. shall not be held liable for any damage resulting from handling or from contact with the above chemical.

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This document will only be updated as needed.

N/A = not available.

N/D = not determined.