



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

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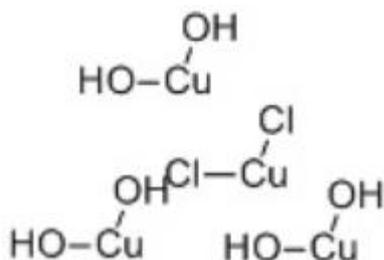
### 1. Chemical Product Identification

Product Name: Copper oxychloride

Molecular Formula:  $\text{Cl}_2\text{Cu}_4\text{H}_6\text{O}_6$

Molecular Weight: 427.10

Structural Formula:



Chemical Name: Diccopper chloride trihydroxide

CAS No.: 1332-40-7

### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Copper oxychloride	1332-40-7	95.0 Min
Other ingredients		5.0 Max

### 3. Hazards Identification

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.



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EYE: Moderate eye irritant. May cause allergic conjunctivitis.

SKIN: Moderate skin irritant. May cause allergic irritation.

INGESTION: Harmful if swallowed

INHALATION: May cause irritation of the nose and throat and cause coughing and chest discomfort.

SYSTEMIC (other target organ): No data available

CANCER INFORMATION: The ingredients are not listed

TERATOLOGY (Birth defects): No data available

REPRODUCTIVE EFFECTS: No data available

MUTAGENICITY: No data available

#### 4. First Aid Measures

**Ingestion:** Give two glasses of water or milk, don't give alcohol, and call a physician immediately

**Eye Contact:** Immediately, Flush with copious amounts of water for at least 15 minute while holding eyelids apart. Washing within one minute is essential to achieve maximum effectiveness. Get immediate medical attention after flushing.

**Skin Contact:** Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Discard shoes and leather goods. If irritation should develop, get medical attention.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

**Advice to Doctor:** Treat symptomatically. Note the nature of this Product.

#### 5. Fire-Fighting Measures

**Fire and Explosion Hazards :** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Not Combustible. Use extinguishing media suited to burning materials.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.



## 6. Accidental Release Measures

**Accidental release** : Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area, preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Dispose of only in accord with all regulations. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## 7. Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimize the quantities kept in work areas. Check Section personal protective measures of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimize risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section Stability and Reactivity.

**Storage:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section Stability and Reactivity .

Check packaging - there may be further storage instructions on the label.

## 8. Exposure Controls/Personal Protection



**EXPOSURE GUIDELINES:** Exposure values at the TWA (Time Weighted Average) means the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Copper as dust or mist has a TWA of 1mg/m<sup>3</sup>.

**ENGINEERING CONTROLS:** In industrial situations, concentration values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

**RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:** Avoid skin and eye contact and inhalation of vapour. Wear overalls, chemical goggles and impervious gloves. Use adequate ventilation. Eye washing and shower facilities available.

**EYE / FACE PROTECTION:** Face and eye protection should be worn.

**SKIN PROTECTION:** Wear chemical resistant PVC or nitrile gloves. Wear cotton overalls and washable cotton hat. Wear boots.

**RESPIRATORY PROTECTION:** Use in well-ventilated area.

**APPLICATIONS AND ALL OTHER HANDLERS:** After handling this product always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

## 9. Physical and Chemical Properties

**Appearance:** Green or light green powder

**Odor:** Odourless

**PH:** 6.0-8.0

**Insolubility in acid:** ≤0.2%

**Density(water=1):** 0.5g/cm<sup>3</sup> (20°C)

**Fineness(through 325mesh sieve):** Qualified

**Vapor pressure:** Negligible (25°C)

**Flammability:** flammable

**Explosivity:** Fine dust in air may form an explosive mixture if source of ignition is present.



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## 10. Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions.

**Store Conditions:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Incompatibilities: Avoid acids

**Fire Decomposition:** Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire-Chlorides, copper oxide

**Polymerisation:** This product is unlikely to undergo polymerisation Processes.

## 11. Toxicological Information

**Oral toxicity:** LD<sub>50</sub> rat: > 700-800 mg/kg

**Dermal toxicity:** LD<sub>50</sub> rat: > 2000 mg/kg

**Inhalation toxicity:** LC<sub>50</sub> (4h): 30mg/l air

**Skin irritation:** irritating to skin (rabbits)

**Eye irritation:** mild-moderate irritating to eyes (rabbits)

**Sensitisation:** Not a skin sensitiser (guinea pigs).

## 12. Ecological and Ecotoxicological Information

**Effect on birds:** moderate toxicity to birds, acute LD<sub>50</sub> for Bobwhites quail is 173 a.i.mg/kg.

**Effect on fish:** low toxicity to fish, acute 96 hour LC<sub>50</sub> for Rainbow trout is >43.8 a.i.mg/L.

**Effect on aquatic invertebrates:** moderate toxicity to aquatic invertebrates, acute 48 hour EC<sub>50</sub> for Daphnia magna is 0.29 a.i.mg/L.

**Effect on algae:** low toxicity to algae, acute 72 hour EC<sub>50</sub> for Pseudokirchneriella subcapitata is 165.9 a.i.mg/L.

**Effect on honeybees:** moderate toxicity to honeybees, contact acute 48 hour LD<sub>50</sub> is 44.3 a.i.µg/bee; Oral acute 48 hour LD<sub>50</sub> is 12.1 a.i.µg/bee. Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC<sub>50</sub> for Eisenia foetida is > 489.6 a.i.mg/kg.

## 13. Disposal Considerations

**Spill/leak clean-up procedures:** Sweep, scoop, or pick up spilled material. Ventilate area. Avoid dusting. Prevent material from entering sewers. Dike if necessary.

**Disposal method:** Dispose in accordance with local environmental and regulatory



Requirements.

**Superfund reportable quantity(rq):** Not regulated.

**Hazardous waste no.:** Not regulated.

## 14. Transport Information

Not applicable

## 15. Regulatory Information

**Risk Phrases:** R22 Harmful by inhalation & if swallowed

**Safety Phrases:** S22 Do not breathe dust

**SUSDP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good.

**UN Number:** None allocated

## 16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.