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MSDS Number: **C5852** \* \* \* \* \* *Effective Date: 11/02/01* \* \* \* \* \* *Supersedes: 11/17/99*

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**Material Safety Data Sheet**

From: Mallinckrodt Baker, Inc.  
222 Red School Lane  
Phillipsburg, NJ 08865



Mallinckrodt  
CHEMICALS



24 Hour Emergency Telephone: 908-859-2151  
CHEMTREC: 1-800-424-9300

National Response in Canada  
CANUTEC: 613-996-6666

Outside U.S. and Canada  
Chemtec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

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# CUPRIC CARBONATE BASIC

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## 1. Product Identification

**Synonyms:** Copper (II) carbonate hydroxide (2:1:2); copper, [carbonato (2-)] dihydroxydi-; basic copper (II) carbonate; cupric carbonate, basic; copper carbonate, hydroxide

**CAS No.:** 12069-69-1

**Molecular Weight:** 221.13

**Chemical Formula:**  $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$

**Product Codes:**

J.T. Baker: 1786

Mallinckrodt: 1798

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
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Copper(II) Carbonate Hydroxide	12069-69-1	100%	Yes

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## 3. Hazards Identification

### Emergency Overview

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**WARNING! HARMFUL IF SWALLOWED. AFFECTS THE LIVER AND KIDNEYS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.**

**J.T. Baker SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

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Health Rating: 2 - Moderate

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

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### Potential Health Effects

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Information concerning the hazards of this product was limited. Hazard information was taken from other copper salts. It is believed, however, that insoluble copper salts are less hazardous than soluble copper salts.

#### Inhalation:

Causes irritation to respiratory tract, symptoms may include coughing, sore throat, and shortness of breath. May result in ulceration and perforation of respiratory tract. When heated, this compound may give off copper fume, which can cause symptoms similar to the common cold, including chills and stuffiness of the head.

#### Ingestion:

May cause burning pain in the mouth, esophagus, and stomach. Hemorrhagic gastritis, nausea, vomiting, abdominal pain, metallic taste, and diarrhea may occur. If vomiting does not occur immediately systemic copper poisoning may occur. Symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous excitation followed by depression, jaundice, convulsions, blood effects, paralysis and coma. Death may occur from shock or renal failure.

#### Skin Contact:

May cause irritation with redness and pain. Contact with extensively burned skin may cause poisoning.

#### Eye Contact:

May cause irritation, redness, pain, blurred vision, and discoloration. May produce corneal opacity, inflammation, and conjunctivitis.

#### Chronic Exposure:

Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure to dusts of copper salts may cause discoloration of the skin or hair, blood and liver damage, ulceration and perforation of the nasal septum, runny nose, metallic taste, and atrophic changes and irritation of the mucous membranes.

#### Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders, impaired liver, kidney, or pulmonary function, glucose 6-phosphate-dehydrogenase deficiency, or pre-existing Wilson's disease may be more susceptible to the effects of this material.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician immediately.

**Skin Contact:**

In case of contact, wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

May be an explosion hazard when mixed with incompatibles.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

1 mg/m<sup>3</sup> (TWA) for copper dusts & mists as Cu

-ACGIH Threshold Limit Value (TLV):

1 mg/m<sup>3</sup> (TWA) for copper dusts & mists as Cu

### Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### Skin Protection:

Wear protective gloves and clean body-covering clothing.

### Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### Appearance:

Green powder.

### Odor:

Odorless.

### Solubility:

Insoluble in water.

### Specific Gravity:

4.00

### pH:

No information found.

### % Volatiles by volume @ 21C (70F):

0

### Boiling Point:

Not applicable.

### Melting Point:

200C (392F)

### Vapor Density (Air=1):

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

May produce acrid smoke and irritating fumes when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Sodium hypobromite, acetylene, hydrazine, nitromethane, and strong acids.

**Conditions to Avoid:**

Incompatibles.

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## 11. Toxicological Information

Oral rabbit LD50: 159 mg/kg; oral rat LD50: 1350 mg/kg.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
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Copper(II) Carbonate Hydroxide (12069-69-1)	No	No	None

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## 12. Ecological Information

**Environmental Fate:**

When released into the soil, this material is not expected to biodegrade. When released into water, this material is not expected to biodegrade. When released into water, this material is not expected to evaporate significantly.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

Ingredient	TSCA	EC	Japan	Australia
Copper(II) Carbonate Hydroxide (12069-69-1)	Yes	Yes	Yes	Yes

Ingredient	Korea	DSL	NDSL	Phil.
Copper(II) Carbonate Hydroxide (12069-69-1)	Yes	Yes	No	Yes

Ingredient	-SARA 302- RQ	TPQ	-SARA 313- List	Chemical Catg.
Copper(II) Carbonate Hydroxide (12069-69-1)	No	No	No	Copper compo

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Copper(II) Carbonate Hydroxide (12069-69-1)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: Yes      Fire: No      Pressure: No  
Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** 2XE

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR)

and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: **2** Flammability: **0** Reactivity: **0**

**Label Hazard Warning:**

WARNING! HARMFUL IF SWALLOWED. AFFECTS THE LIVER AND KIDNEYS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 8.

**Disclaimer:**

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