
Kocide Copper Hydroxide Technical
GPA0KCHT Revised 17-OCT-2008 Printed 17-OCT-2008

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"KOCIDE" is a registered trademark of DuPont.

Grade : For Formulating Use Only

Tradenames and Synonyms

COPPER HYDROXIDE
CUPRIC HYDROXIDE

Tradenames and Synonyms (Remarks)

Inactive EPA Reg. No.: 1812-297 (Griffin)

Company Identification

MANUFACTURER/DISTRIBUTOR
E.I. du Pont Canada Company
P.O. Box 2200
Streetsville
Mississauga, Ontario L5M 2H3

PHONE NUMBERS

Product Information : 1-800-387-2122
Medical Emergency : 1-800-441-3637 (24 hours)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
COPPER HYDROXIDE*	20427-59-2	93.6 WT%
INERT INGREDIENTS		6.4 %

Components (Remarks)

(*Metallic Copper Equivalent 61.0%)

HAZARDS IDENTIFICATION

Emergency Overview

CORROSIVE. Causes irreversible eye damage. Wear goggles, face shield, or safety glasses. Causes skin irritation. Harmful if swallowed, absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Protective clothing should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Potential Health Effects

HUMAN HEALTH EFFECTS OF OVEREXPOSURE BY:

Skin contact may initially include: skin irritation with discomfort or rash; or allergic skin rashes. There are inconclusive or unverified reports of human sensitization.

Eye contact may initially include: corneal opacity or clouding of the eyes, eye corrosion or ulceration, blindness may occur.

Inhalation may initially include: irritation of the upper respiratory passages, with coughing.

Ingestion may initially include: nonspecific discomfort, such as nausea, or weakness, central nervous system depression, which, if severe enough, may lead to death.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not

(FIRST AID MEASURES - Continued)

breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.

Notes to Physicians

Probable mucosal damage may contraindicate use of gastric lavage.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point & Method : Not determined
Flammable Limits : Not determined
Autoignition Temperature : Not determined

FIRE FIGHTING HAZARDS & PROCEDURES

General Hazard : Negligible fire hazard when exposed to heat or flame.

Fire Fighting Instructions: Avoid contact with molten product to prevent serious burns.

Hazardous Combustion Products : Decomposes to CuO and H₂O above 140°C.

Extinguishing Media

Dry Chemical, CO₂, Water Spray, Foam.

Fire Fighting Instructions

Wear full protective equipment. Wear self-contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Spill Clean Up

Land Spill: Sweep up and place in suitable (fiberboard) containers for later disposal.

Water Spill: If feasible, copper may be precipitated/- ultrafiltrated with caustics or other chemicals and resulting sludge disposed of in a chemical landfill.

HANDLING AND STORAGE

Handling (Personnel)

Avoid contact with eyes, skin or clothing. Avoid breathing dust. Wash thoroughly after handling. Wash contaminated clothing prior to reuse.

Storage

Do not contaminate water, food or feed by storage or disposal. Store in a cool, dry place. Store below 35 C (95 F).

Do not store near feed, food or within the reach of children.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation.

Personal Protective Equipment

Eye/Face

Wear coverall chemical splash goggles when the possibility exists for eye or face contact with material.

Respiratory Protection

Use NIOSH approved respirator if exposure limits may be exceeded.

Protective Clothing

Wear impervious clothing as needed to prevent contact with this material, such as gloves, apron, boots or whole bodysuit.

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

Remove contaminated clothing and wash before reuse.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines

Applicable Exposure Limits

COPPER HYDROXIDE*

PEL (OSHA)	:	1 mg/m ³ , dusts and mists, as Cu, 8 Hr. TWA
TLV (ACGIH)	:	1 mg/m ³ , dusts and mists, as Cu, 8 Hr. TWA
AEL * (DuPont)	:	1.5 mg/m ³ , 8 & 12 Hr. TWA (approximately 1 mg/m ³ , as Cu)

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

pH	:	7.8
Density	:	0.1917 g/mL
Form	:	Powder.
Color	:	(light), Blue.
Odor	:	Characteristic copper odor
Boiling Point	:	Not Determined
Melting Point	:	Decomposes
Solubility in Water	:	Disperses to form a suspension. Copper Hydroxide is insoluble in cold water and decomposes in hot water.

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal conditions.

Conditions to Avoid

Excessive Heat.

Incompatibility with Other Materials

None reasonably foreseeable.

(STABILITY AND REACTIVITY - Continued)

Decomposition

Decomposes to CuO and H₂O above 140°C.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Copper hydroxide

Oral LD50: 489 mg/kg in rats

Dermal LD50: > 2000 mg/kg in rabbits

4-Hour Inhalation LC50: 0.56 mg/L in rats

Copper hydroxide was corrosive to the unwashed rabbit eye and severely irritating to the washed rabbit eye. Corneal opacity was observed in washed and unwashed eyes. Copper hydroxide was a slight skin irritant but was not a skin sensitizer.

Repeated oral ingestion of copper hydroxide via gavage produced reduced body weights and food consumption at 15 mg/kg/day and mortality at 30 mg/kg/day in rabbits.

No animal data are available to define carcinogenic, reproductive, or mutagenic hazards of copper hydroxide. Animal data show developmental effects only at exposure levels producing other toxic effects in the adult animal.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

48-Hour EC50 - Daphnia magna: 70.16 ug/L.

AVIAN TOXICITY:

8-Day LC50 - Bobwhite Quail: 3400 ppm.

8-Day LC50 - Mallard Ducklings: > 5000 ppm.

48-Hour LD50 - Honeybee: 68.3 ug/bee.

ENVIRONMENTAL FATE:

EC50 (respiration rate) - activated
sludge: 71 mg/L

DISPOSAL CONSIDERATIONS

Waste Disposal

Do not contaminate water supply, food or feed by storage or disposal.

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance.

ENVIRONMENTAL HAZARDS:

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plan authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Container Disposal

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : Environmentally Hazardous Substances,
Solid, n.o.s. (Cupric Hydroxide)
Hazard Class : 9
UN No. : 3077
Packing Group : III
Reportable quantity : No
Marine Pollutant : Yes

Note: Not regulated unless shipped in bulk package or shipped by water.

Shipping Information -- Canada

Note: Not regulated unless shipped in bulk package or shipped by water. See IMO description.

REGULATORY INFORMATION

U.S. Federal Regulations

EPA Reg. No. 352-682

OSHA:

This product is considered hazardous under the OSHA Hazardous Communication Standard (29 CFR §1910.1200).

TSCA:

All product components are on the TSCA Chemical Inventory.

CERCLA:

Releases of a component of this material (CAS 7440-50-8: RQ = 5000 lbs.) to air, land, or water are reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to the state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304 and 40 CFR Part 302.

RCRA:

When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR 261.33.

SARA TITLE III

302

: Not listed

311/312 Hazard Categories: This product has been reviewed according to the EPA "Hazard Categories" and is categorized as an Acute health hazard (40 CFR 370.41).

313 Reportable Ingredients: This product contains copper (CAS 7440-50-8) and is listed in Section 313 of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

STATE REGULATIONS

California:

Listed under copper (CAS No. 7440-50-8) with footnotes referencing above federal standards.

New Jersey:

Footnotes reference above federal standards plus listing of copper on the New Jersey Environmental Hazardous Substances List (NJ Department of Environmental Protection, Title 7 New Jersey Administrative Code (NJAC) Chapter 1G).

Massachusetts:

(REGULATORY INFORMATION - Continued)

Listed as copper (CAS No. 7440-50-8) and copper based pesticide, solid, toxic (no CAS No. assigned).

Pennsylvania:

Listed as copper fume or dust (CAS No. 7440-50-8) as an environmental hazard.

Canadian Regulations

Regulated under the Pest Control Products Act--WHMIS Exempt

Registration No. 27503 Pest Control Products Act

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

OTHER INFORMATION

NFPA, NPCA-HMIS

HAZARDS CLASSIFICATION:

(0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe)

NFPA: HEALTH-2 FIRE-1 REACTIVITY-0

HMIS: HEALTH-2 FIRE-1 REACTIVITY-0

Additional Information

Inactive EPA Reg No.: 1812-297 (Griffin)

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS

----- Crop Protection E.I. du Pont Canada Company
Box 2200, Streetsville
Mississauga, Ontario L5M 2H3
(905) 821-3300.

End of MSDS