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4/11 1997

COPPER CARBONATE
MATERIAL SAFETY DATA SHEET
General Information

SECTION 1 GENERAL INFORMATION

Manufacturer's Name Bernardy Chimie SA
Address 12, Route de Tours, 1800
City, State, Country Thenioux, France

Distributed By Don Ingraham & Co., Inc.
 60 Highpoint Drive
 Gulf Breeze, Florida 32561

Emergency Telephone 1-800-424-9300 CHEMTREC
DATE PREPARED: February 1997
Other Information Calls 713-665-4040

SECTION 2 NAME AND HAZARD SUMMARY

MATERIAL NAME: COPPER CARBONATE (CuCO₃*Cu(OH)₂)

Hazard summary (as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Physical Hazards: None

Health Hazards: Inhalation (TLV), irritant (skin, eye, mucous membrane). Poisoning by copper salts may affect the liver and kidneys.

Read the entire MSDS for a more thorough valuation of the hazards.

SECTION 3	INGREDIENTS	%	TLV (ACGIH)
	Copper Carbonate (CAS #12069-69-1)	100	1 mg/m ³ (Dusts & Mists as Cu)

Ingredients not precisely identified are proprietary or nonhazardous. Values are not product specifications.

MATERIAL NAME: COPPER CARBONATE (CuCO₃*Cu(OH)₂)

DATE: 02/97

PAGE 2 OF 6

SECTION 4 PHYSICAL DATA

Density.....:500 to 2000 kg/m³

Acid/base character of preparation.....:Basic

Solubility of preparation in water.....:Insoluble

Vapor tension at 50°C of volatile constituents.....:N-A

Physical state.....:Solid (green)

Flash point interval.....:N-A

pH of a 5% solution.....:7

Self-ignition temperature.....:N-A

Decomposition temperature.....:200°C

melting temperature interval.....:N-A

Average distillation temperature of solvents contained.....:N-A

SECTION 5 FIRE AND EXPLOSION DATA

Flash point: Noncombustible

Auto-ignition temperature: No data

Flammable limits (STP): No data

Extinguishing media:

Dry chemical, carbon dioxide, water spray or foam

Special fire fighting protective equipment:

Self-contained breathing apparatus with full facepiece operated in pressure demand or other positive pressure mode.

OR

Supplied-air respirator with full facepiece operated in pressure demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode.

MATERIAL NAME: COPPER CARBONATE ($\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$)

DATE: 02/97

PAGE 3 OF 6

SECTION 5 FIRE AND EXPLOSION DATA (Cont'd.)

Unusual fire and explosion hazards:

Negligible fire hazard when exposed to heat or flame.

SECTION 6 REACTIVITY DATA

Stability:

Stable under normal conditions.

Incompatibility (materials to avoid):

None known.

Hazardous decomposition products:

Thermal decomposition may release toxic and/or hazardous gases.

Hazardous polymerization:

Will not occur.

SECTION 7 HEALTH HAZARDS INFORMATION AND FIRST AID

Inhalation:

Acute exposure - May cause irritation of the mucous membranes. Exposure to copper fume may result in metallic taste, nausea, vomiting, and metal fume fever with chills, fever, aching muscles, dry throat and headache.

Chronic exposure - Repeated or prolonged inhalation of dust, mist or fumes of copper and copper salts may cause irritation of the upper respiratory tract and occasionally ulceration and perforation of the nasal septum.

First Aid - Remove victim from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Get medical attention immediately.

MATERIAL NAME: COPPER CARBONATE ($\text{CuCO}_3 \cdot \text{Cu(OH)}_2$)

DATE: 02/97

PAGE 4 OF 6

SECTION 7 HEALTH HAZARDS INFORMATION AND FIRST AID (Cont'd.)

Skin contact:

Chronic exposure - Repeated or prolonged exposure may cause dermatitis. Rarely, sensitization to copper may occur.

First Aid - Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 - 20 minutes). Get medical attention immediately.

Eye contact:

Acute exposure - may cause irritation with redness, pain, and blurred vision.

Chronic exposure - Depending on concentration and duration of contact, repeated or prolonged exposure may result in symptoms as in acute exposure.

First Aid - Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15 - 20 minutes). In case of burns, apply sterile bandages loosely without medication. Get medical attention immediately.

Ingestion:

Acute exposure - Acute Oral LD_{50} (rat) > 1350 mg/kg. Ingestion of copper salts may result in irritation of the gastrointestinal tract, nausea, vomiting, salivation, gastric pain, hemorrhagic gastritis, diarrhea, capillary damage, liver and kidney damage, and central nervous system stimulation followed by depression. Jaundice, pain in the liver, and hemolytic anemia have been reported following acute human poisonings.

Chronic exposure - Repeated ingestion of copper salts may result in anemia, liver and kidney damage.

MATERIAL NAME: COPPER CARBONATE (CuCO₃*Cu(OH)₂)

DATE: 02/97

PAGE 5 OF 6

SECTION 7 HEALTH HAZARDS INFORMATION AND FIRST AID (Cont'd.)

First Aid - Unless extensive vomiting has occurred, empty the stomach by gastric lavage with water, milk, sodium bicarbonate solution or a 0.1% solution of potassium ferrocyanide. Administer egg white and other demulcents. Get medical attention immediately. (Gossein, Clinical Toxicology of Commercial Products, 5th Ed.) Administration of gastric lavage should be performed by qualified medical personnel.

Skin absorption:

Systemically toxic concentrations are likely to be absorbed through the skin in a man.

Medical conditions that may be aggravated by overexposure:

Persons with a history of chronic respiratory or skin disease may be at increased risk from exposure.

SECTION 8 SPILL, LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case material is released or spilled:

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

Disposal method:

Do not reuse container. Disposal of material, washwater, spill residue, and container must be by methods consistent with local, state and federal regulations.

SECTION 9 SPECIAL PROTECTION INFORMATION

Ventilation:

Provide local exhaust ventilation and/or general dilution ventilation to meet published exposure limits.

Protective clothing:

Wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance. Use impervious gloves, arm covers and apron.

MATERIAL NAME: COPPER CARBONATE (CuCO₃*Cu(OH)₂)

DATE: 02/97

PAGE 6 OF 6

SECTION 9 SPECIAL PROTECTION INFORMATION (Cont'd.)

Eye protection:

Wear splash-proof or dust-resistant safety goggles to prevent contact with this substance.

Respirator:

If needed, use MSHA-NIOSH approved respirator for pesticides.

SECTION 10 SPECIAL PRECAUTIONS AND COMMENTS

Storage:

Store below 50°C (95°F). Store in a clean, dry area. Do not store near feed, food, or within the reach of children.

SECTION 11 REGULATORY INFORMATION

Toxic Substances Control Act (TSCA) Status:

The ingredients of this product are listed on the TSCA inventory but not reportable.

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III:

There are no components present in this product at levels which could require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA):

There are no components present in this product at levels which could require reporting under this statute.

The information herein is given in good faith but no warranty, expressed or implied, is made.

From : DON INGRAHAM & CO., INC. FAX NO. 904 534 1799

Apr. 22, 1997 03:55 PM

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BERNARDY - CHIMIE S.A.

Sels minéraux Na Ba Ca Cr Cu K Sr Zn...
 Spécialités pour pyrotechnie

Siège et Usine :
 12, route de TOURS
 18100 THENIOUX
 FRANCE

Thenoux. 25 03.97

DON INGRAHAM & CO., Inc
 50 Highpoint Drive
 Gulf breeze
 FLORIDA 32641
 USA

PRODUCT : COPPER CARBONATE
 GRADE : Ultra light
 CODE : CUCOS
 QUANTITY : 6000 Kg
 ORDER : PT 21297 dated 12/02/97
 SALE : 07B-0308/1-360

CERTIFICATE OF ANALYSIS

ANALYSIS	32001 32101				
	N. BATCH N031901 1235 Kg	N. BATCH N032001 875 Kg	N. BATCH N032101 1325 Kg	N. BATCH N032102 825 Kg	N. BATCH N032201 825 Kg
APPEARANCE : Fine green powder	Conform	Conform	Conform	Conform	Conform
Loss on drying at 85°C (7 hours) (%) :	0.38	0.35	0.23	0.04	0.07
ON DRY PRODUCT					
Total Copper (%) :	55.74	55.80	55.74	56.03	55.96
Iron (ppm) :	17	18	30	31	28
Chloride (ppm)	435	365	384	74	283
Insolubles in HCl (%) :	0.011	0.015	0.20	0.017	0.010
Bulk density (g/cm3) :	0.61	0.60	0.67	0.61	0.61
GRANULATION :					
Passing through 45 µ (%) :	98.1	96.3	98.1	98.2	97.9

The Laboratory

[Signature]
 N. DESEQUELLES

The Manager

[Signature]
 M. DEBARGE

New
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