

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name:	RIDOMIL GOLD COPPER	Product No.:	A9601B
EPA Signal Word:	Danger		
Active Ingredient(%):	Copper Hydroxide (60.0%)	CAS No.:	20427-59-2
Chemical Name:	Copper (II) Hydroxide		
Chemical Class:	Weak Base of Transition Metal		
Active Ingredient(%):	Mefenoxam (5.0%)	CAS No.:	70630-17-0
Chemical Name:	(R)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester		
Chemical Class:	Phenylamide Fungicide		
EPA Registration Number(s):	100-804	Section(s) Revised:	2, 3, 4, 9, 12, 15

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Kaolin Clay	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	2 mg/m ³ TWA (respirable dust)	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)**	No
Crystalline Silica, Quartz	10 mg/m ³ /(%SiO ₂ +2) (respirable dust)	0.1 mg/m ³ (respirable silica)	Not Established	IARC Group 2A
Amorphous Silica	80 mg/m ³ /%SiO ₂ TWA (total dust)	10 mg/m ³ TWA (total dust)	Not Established	IARC Group 3
Diatomaceous Earth	80 mg/m ³ /%SiO ₂ (20 mppcf) TWA	10 (inhalable);3 mg/m ³ (respirable) TWA	6 mg/m ³ TWA**	No
Crystalline Silica, Quartz	10 mg/m ³ /(%SiO ₂ +2) (respirable dust)	0.1 mg/m ³ (respirable silica)	Not Established	IARC Group 2A
Mefenoxam (5.0%)	Not Established	Not Established	Not Established	No
Copper Hydroxide (60.0%)	1 mg/m ³ TWA	1 mg/m ³ TWA	1 mg/m ³ TWA**	No

** recommended by NIOSH

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

3. HAZARDS IDENTIFICATION
Symptoms of Acute Exposure

Corrosive to the eyes. May cause severe injury including blindness.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Blue powder
 Odor: Clay-like

Unusual Fire, Explosion and Reactivity Hazards

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

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

- Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): Not Applicable
- Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards

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

In Case of Fire

Use dry chemical, foam or CO₂ extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Ingestion:	Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
Eye Contact:	Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Skin Contact:	Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
Inhalation:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue powder
Odor:	Clay-like
Melting Point:	Not Available
Boiling Point:	Not Applicable
Specific Gravity/Density:	23.30 lbs./cu.ft.
pH:	8 - 10 (1% suspension in water)

Solubility in H₂O

Copper Hydroxide:	0.1 - 5 ppm
Mefenoxam:	26 g/l @ 77°F (25°C)

Vapor Pressure

Copper Hydroxide:	Not determined.
Mefenoxam:	2.5 x 10 ⁽⁻⁵⁾ mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	None known.
Materials to Avoid:	None known.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	<u>Moderately Toxic</u>	
	Oral (LD50 Rat) :	= 550 mg/kg body weight
Dermal:	<u>Slightly Toxic</u>	
	Dermal (LD50 Rabbit) :	> 2,020 mg/kg body weight
Inhalation:	<u>Slightly Toxic</u>	
	Inhalation (LC50 Rat) :	= 1.73 mg/l air - 4 hours
Eye Contact:	Corrosive (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Copper Hydroxide: Not available.
Mefenoxam: None observed.

Chronic/Subchronic Toxicity Studies

Copper Hydroxide: Lung irritation and moderate temporary irritation to eyes. Exposure to copper-containing compounds is reported to cause liver injury (cirrhosis, jaundice), kidney damage, blood disorders (hemolysis, anemia, methemoglobinemia), and respiratory tract effects (nasal ulceration/irritation).
Mefenoxam: Liver effects at high dose levels.

Carcinogenicity

Copper Hydroxide: None observed.
Mefenoxam: None observed.

Other Toxicity Information

None.

Toxicity of Other Components

Amorphous Silica

Amorphous Silica is listed as an IARC (Group 3) carcinogen not classifiable as a human carcinogen (No Data Available) with limited animal evidence. Prolonged exposure to amorphous silica may cause damage to respiratory system and irritation to skin and eyes.

Diatomaceous Earth

The carrier in this product is naturally occurring diatomaceous earth. Natural diatomaceous earth contains a small percentage of naturally occurring crystalline silica, which is considered a probable human carcinogen. Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to crystalline silica developed respiratory tract cancers.

Kaolin Clay

Long term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs. Continued long term overexposure may affect respiratory function in some individuals.

Target Organs

Active Ingredients

Copper Hydroxide: Liver, blood, kidney, respiratory tract
Mefenoxam: Liver

Inert Ingredients

Amorphous Silica: Respiratory tract, skin, eye
Diatomaceous Earth: Respiratory tract
Kaolin Clay: Lung

12. ECOLOGICAL INFORMATION

Summary of Effects

Copper Hydroxide:
Not Available
Mefenoxam:

Practically non-toxic to aquatic organisms and wildlife.

Eco-Acute Toxicity

Mefenoxam: Bees LC50/EC50 > 25 ug/bee
Invertebrates (water flea) LC50/EC50 > 113 ppm
Fish (Trout) LC50/EC50 > 121 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 5,620 ppm

Copper Hydroxide: Bluegill Sunfish 96-hour LC50 180 ppm
Daphnia magna EC50 6.5 ppb
Rainbow Trout LC50 23 ppb
Bobwhite Quail LC50 >340 mg/kg
Fathead Minnow 96-hour LC50 23 ppb
Bobwhite Quail 8-day LD50 >10,000 ppm
Mallard Duck 8-day LD50 >10,000 ppm

Eco-Chronic Toxicity

Mefenoxam: Not Available

Copper Hydroxide: Not Available

Environmental Fate

Copper Hydroxide:

The degree of mobility of copper in the environment depends upon the pH of ambient soils and waters. The higher the acidity, the more soluble copper salts are and, hence, the more mobile. Partitioning of copper into air is negligible due to the low vapor pressure of copper salts.

Mefenoxam:

No data available for the formulation. The information presented here is for the active ingredient, mefenoxam. A thorough review of environmental information is not possible in this document.

Persistence (Half-Life): Soil: 73.5 days. Water: Stable @ pH 5-7; 116 days @ pH 9.

Photolysis (Half-Life) Soil: 248 days. Water: Stable.

Leaching/Mobility: Low to very high mobility (Koc = 1299-20).

Soil Metabolism: t1/2 = degrades slowly under anaerobic soil conditions.

Action in Water (after 24 hrs.): Mixes then sinks.

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Copper Based Pesticides, Solid, Toxic, 6.1, UN2775, PGIII

Do not ship by air.

B/L Freight Classification

Fungicides, NOI poison

Comments

International Transportation:

Copper Based Pesticides, Solid, Toxic, (copper hydroxide), Class 6.1, UN2775, PGIII, Marine Pollutant

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard

Section 313 Toxic Chemicals: Copper Hydroxide (60.0%) (CAS No. 20427-59-2)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

Contains copper compounds. No RQ assigned.

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 3
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 3
Flammability: 1
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 05/03/1996

Revision Date: 01/03/2003

Replaces: 02/20/2002

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

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End of MSDS