

**Novartis Crop Protection, Inc**  
**Post Office Box 18300**  
**Greensboro, NC 27419**

**In Case of Emergency, Call**

**Novartis : 1-800-888-8372**  
**CHEMTREC : 1-800-424-9300**

**1. CHEMICAL IDENTIFICATION**

Product Name:	<b>RIDOMIL GOLD/BRAVO</b>	Product No.:	A-9597 B
EPA Signal Word:	Danger		
Active Ingredient(%):	Chlorothalonil (72%)	CAS No.:	1897-45-6
Chemical Name:	Tetrachloroisophthalonitrile		
Chemical Class:	Chlorinated Benzonitrile Fungicide		
Active Ingredient(%):	Mefenoxam (4.5%)	CAS No.:	Mixture
Chemical Name:	(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester		
Chemical Class:	Fungicide		

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Kaolin Clay	15 mg/m <sup>3</sup> (Total Dust);5 mg/m <sup>3</sup> (Respirable)	2 mg/m <sup>3</sup> (Respirable)	Not Established	No
Amorphous Silica	80 mg/m <sup>3</sup> /%SiO <sub>2</sub>	10 mg/m <sup>3</sup>	Not Established	IARC, 3
Surfactant	Not Established	Not Established	15 mg/m <sup>3</sup> (Total Dust)*	No
Sodium Sulfite	Not Established	Not Established	Not Established	IARC, 3
Carrier	5 mg/m <sup>3</sup> (Respirable Dust)	10 mg/m <sup>3</sup> (Total Dust)	Not Established	No
Diatomaceous Earth	80 mg.m <sup>3</sup> /%SiO <sub>2</sub>	10 (Inhalable);3 mg/m <sup>3</sup> (Respirable)	Not Established	IARC, 2A
Wetting Agent	Not Established	Not Established	Not Established	No
Chlorothalonil (72%)	Not Established	Not Established	Not Established	IARC, 3
Mefenoxam (4.5%)	Not Established	Not Established	Not Established	No

\* recommended by manufacturer

**3. HAZARDS IDENTIFICATION**
Notes to Physician

There is no specific antidote if this product is ingested.

If a large amount has been ingested and emesis is inadequate, lavage stomach.

Treat symptomatically.

Contact with eyes may require specialized ophthalmologic attention.

An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant.

### Symptoms of Acute Exposure

Exposure causes severe irritation or injury to eyes and slight irritation to skin. A skin sensitization (allergic) reaction can occur in some individuals.

### Hazardous Decomposition Products

None Known

### Physical Properties

Appearance: Light Gray Powder

Odor: Sweet

### Unusual Fire, Explosion and Reactivity Hazards

None Known

## **4. FIRST AID MEASURES**

If poisoning is suspected, immediately contact a physician, the nearest hospital, or the nearest Poison Control Center. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

**Ingestion:** If victim is fully conscious, drink promptly a large quantity of milk, egg white, gelatin solution or if these are not available, large quantities of water and induce vomiting. Never give anything by mouth to an unconscious person.

**Eye Contact:** Immediately rinse eyes with a large amount of running water. Hold eye lids apart to rinse the entire surface of the eyes and lids. Do not apply any medicating agents except on the advice of a physician.

**Skin Contact:** Wash with plenty of soap and water, including hair and under fingernails. Do not apply any medicating agents except on the advice of a physician. Remove contaminated clothing and decontaminate prior to use.

**Inhalation:** Move victim from contaminated area to fresh air. Apply artificial respiration if necessary.

### Notes to Physician

There is no specific antidote if this product is ingested.

If a large amount has been ingested and emesis is inadequate, lavage stomach.

Treat symptomatically.

Contact with eyes may require specialized ophthalmologic attention.

An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant.

### Medical Condition Likely to be Aggravated by Exposure

Individuals with allergic history or pre-existing dermatitis should use extra care in handling this product.

## **5. FIRE FIGHTING MEASURES**

### Fire and Explosion

Flash Point (Test Method): Not Applicable

Flammable Limits (% in Air): Lower: %; Upper: % Not Applicable

Autoignition Temperature: Not Available

Flammability: Not Flammable

### Unusual Fire, Explosion and Reactivity Hazards

None Known

### In Case of Fire

Use dry chemical, foam, or CO<sub>2</sub> 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.

## **6. ACCIDENTAL RELEASE MEASURES**

### In Case of Spill or Leak

Wear chemical goggles or a full-face shield, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering, and use a particulate filter, NIOSH approved per 42 CFR Part 84. Select P-100 type as appropriate for the air

contaminants present. Filter efficiency will be 99.97% as appropriate for the size distribution of dusts present. For small spills, sweep up, keeping dust to a minimum, and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Seal the container and handle in an approved manner. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

## 7. HANDLING AND STORAGE

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.
- Eye Contact: To avoid eye contact, wear chemical goggles or a full-face shield.
- Skin Contact: To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.
- Inhalation: To avoid breathing dust, use a particulate filter, NIOSH approved per 42 CFR Part 84. Select P-100 type as appropriate for the air contaminants present. Filter efficiency will be 99.97% as appropriate for the size distribution of dusts present.

**Applicators/Handlers:** Please refer to the product label for personal protective clothing/equipment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Light Gray Powder
- Odor: Sweet
- Melting Point: Not Available
- Boiling Point: Not Applicable
- Specific Gravity/Density: 20.71 lbs./cu.ft.
- pH: 8-10(1% suspension in water)

### Solubility in H<sub>2</sub>O

- Chlorothalonil : 0.6 mg/L @ 20°C
- Mefenoxam : 26.0 g/L @ 25°C

### Vapor Pressure

- Chlorothalonil : 1.30E-02 mbar @ 40°C
- Mefenoxam : 3.30E-03 Pa @ 25°C

## 10. STABILITY AND REACTIVITY

### Reactivity

- Stability: Stable
- Hazardous Polymerization: Will Not Occur
- Conditions to Avoid: None Known

### Hazardous Decomposition Products

None Known

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies

- Ingestion: slightly toxic

Oral LD50 (Rat) : 2,438 mg/kg body weight  
Dermal: slightly toxic  
Dermal LD50 (Rabbit) : > 2,020 mg/kg body weight  
Inhalation: moderately toxic  
Inhalation LC50 (Rat) : 0.216 mg/l air - 4 hours  
Eye Contact: corrosive (Rabbit)  
Skin Contact: slightly irritating (Rabbit)  
Skin Sensitization: sensitizing (Guinea Pig)

#### Mutagenic Potential

Chlorothalonil: Positive in in-vitro mutagenicity assays.  
Mefenoxam: None Observed

#### Reproductive Hazard Potential

Chlorothalonil: None observed  
Mefenoxam: None Observed

#### Chronic/Subchronic Toxicity Studies

Chlorothalonil: Kidney, liver, esophagus, and stomach effects (rats)  
Mefenoxam: Liver effects at high dose levels

#### Carcinogenic Potential

Chlorothalonil: IARC lists chlorothalonil as a (Group 3) carcinogen not classifiable as human carcinogen (No Data Available) with limited animal evidence. EPA classifies chlorothalonil as a probable human carcinogen (Class B2). Increased incidence of stomach and kidney tumors (mice and rats); No carcinogenic effect observed in humans (20 year observation of plant workers)  
Mefenoxam: None Observed

#### Other Toxicity Informatio

Not Available

#### Toxicity of Other Components

##### Amorphous Silica

Amorphous Silica is listed as an IARC (Group 3) carcinogen not classifiable as 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.

##### Carrier

Overexposure results in congestion and irritation of the throat, nasal passages and upper respiratory system. Also may cause temporary irritation and inflammation to the eyes.

##### Diatomaceous Earth

This product contains Crystalline Silica which is considered a probable human carcinogen. Chronic inhalation exposure is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to Crystalline Silica developed respiratory tract cancers.

##### Kaolin Clay

Long term overexposure to high concentrations of this dust without the use of a respirator may produce x-ray evidence of dust in the lungs and may affect respiratory function.

##### Surfactant

Exposure can result in eye, skin and respiratory tract irritation.

##### Wetting Agent

Exposure to skin and eyes may result in irritation.

#### Target Organs

##### Active Ingredients

Chlorothalonil : Eyes, Liver, Kidneys and Gastrointestinal Tract  
Mefenoxam : Liver

##### Inert Ingredients

:

Amorphous Silica	Respiratory Tract, Skin and Eyes
Carrier	: Eyes and Respiratory Tract
Diatomaceous Earth	: Respiratory Tract
Kaolin Clay	: Respiratory Tract
Surfactant	: Eyes, Skin and Respiratory Tract
Wetting Agent	: None Known

## 12. ECOLOGICAL INFORMATION

### Summary of Effects

#### Chlorothalonil:

Very toxic to fish and practically non-toxic to birds.

#### Mefenoxam:

Not Available

### Eco-Acute Toxicity

Chlorothalonil: Rainbow Trout 96-hour LC50 0.25 ppm  
 Bluegill Sunfish 96-hour LC50 0.39 ppm  
 Bobwhite 8-day Dietary LC50 5,200 ppm  
 Peking Duck LD50 >21,500 ppm

Mefenoxam: Not Available

### Eco-Chronic Toxicity

Chlorothalonil: Not Available

Mefenoxam: Not Available

### Environmental Fate

#### Chlorothalonil:

Not  
 Available

#### Mefenoxam:

Not Available

## 13. DISPOSAL CONSIDERATION

### 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:

Pesticides, Solid, Toxic, N.O.S. (chlorothalonil), Class 6.1, UN2588, PGII

### B/L Freight Classification

Insecticides or Fungicides; Agricultural, N.O.S.

### International Transportation

Toxic Solid, Organic, N.O.S. (contains 72% chlorothalonil), Class 6.1, UN2811, PGII

## 15. REGULATORY INFORMATION

SARA Title III Classification

Section 311/312: Acute Health Hazard  
Chronic Health Hazard

Section 313 chemical(s): Chlorothalonil (72%) (CAS No. 1897-45-6)

Proposition 65

This product contains a chemical (chlorothalonil) known to the state of California to cause cancer [listed Jan. 1989].

CERCLA Reportable Quantity (RQ)

None

RCRA Classification

Not Applicable

TSCA Status

Exempt from TSCA

**16. OTHER INFORMATION**

NFPA Hazard Ratings

Health: 2  
Flammability: 0  
Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Questions concerning the safe handling of the product should be referred to:

Industrial Health  
1-800-334-9481

Issued Date: 7/21/95

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Supersedes: 6/1/98

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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