MATERIAL SAFETY DATA SHEET

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 MZ WG FUNGICIDE** Product No.: A9651D

EPA Signal Word: Caution

Active Ingredient(%): Mancozeb (64.0%) CAS No.: 8018-01-7

Chemical Name: Zinc ion and manganese-ethylene-bis-dithio carbamate

Chemical Class: Dithiocarbamate Fungicide

Active Ingredient(%): Mefenoxam (4.0%) CAS No.: 70630-17-0 & 69516-34-3

Chemical Name: (R,S)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester

Chemical Class: Phenylamide Fungicide

EPA Registration Number(s): 100-1269 **Section(s) Revised: 2, 3, 5, 7, 14**

2. HAZARDS IDENTIFICATION

Health and Environmental

May be harmful if swallowed or in contact with skin. May cause an allergic skin reaction. Causes mild eye irritation.

May form flammable dust-air mixture.

Hazardous Decomposition Products

None known.

Physical Properties

Appearance: Light yellow to light brown granules

Odor: Weak

Unusual Fire, Explosion and Reactivity Hazards

Spontaneous combustion may occur at high temperatures or when exposed to water. Exposure to excessive heat or ignition sources presents a definite ignition hazard. Fire can occur in closely packed, unventilated piles of bags. Exposure to moisture promotes decomposition which can cause spontaneous combustion.

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

See also Sec. 7.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Stabilizer	15 mg/m³ particulates not otherwise regulated (total particulates); 5 mg/m³ (respirable)	10 mg/m³ particulates not otherwise classified (inhalable); 3 mg/m³ (respirable)	Not Established	No
Mefenoxam (4.0%)	Not Established	Not Established	10 mg/m³ TWA ***	No

Mancozeb (64.0%)	Not Established	Not Established	1 mg/m³ TWA *	No

* recommended by manufacturer

*** Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: C, S

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol 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.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

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:	374°F	
Flammability:	This product is combustible at elevated temperatures.	

Unusual Fire, Explosion and Reactivity Hazards

Spontaneous combustion may occur at high temperatures or when exposed to water. Exposure to excessive heat or ignition sources presents a definite ignition hazard. Fire can occur in closely packed, unventilated piles of bags. Exposure to moisture promotes decomposition which can cause spontaneous combustion.

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

See also Sec. 7.

In Case of Fire

Use appropriate extinguishing media for combustibles in the area. 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. Sweep up material and place in a 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 in a well-ventilated and dry area. Do not wet or heat this product during storage as decomposition and the threat of fire can result. Ideally store the product at temperatures below 86°F (30°C) but never expose this material to temperatures in excess of 122°F (50°C). Do not exceed 95°F (35°C) for large bulk storage, i.e. greater than 1 cubic meter. Store 50 kg fiber drums one high on pallets and allow air circulation between drums. Check for hot containers and immediately remove any identified to open areas for cooling and/or disposal. When handling, avoid material transfers that could expose the product to frictional heating.

This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

This material would not normally become readily charged.

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 AND PACKAGING 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 dust-proof chemical goggles.
Skin Contact:	Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.
Inhalation:	A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with any HE filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light yellow to light brown granules
Odor:	Weak
Melting Point:	Not Available
Boiling Point:	Not Applicable
Specific Gravity/Density:	0.45 - 0.65 g/cm³
pH:	5 - 9 (1% in deionized water)

Solubility in H2O

Mancozeb:	Dispersible

Mefenoxam:	26 g/l @ 77°F (25°C)

Vapor Pressure

Mancozeb:	Negligible
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:	High temperatures and storage conditions without ventilation or with temperatures above 122°F (50°C). Do not exceed 95°F (35°C) for large bulk storage, i.e. greater than 1 cubic meter. See "Storage and Handling", Section 7.
Materials to Avoid:	Strong acids, strong oxidizers, polar solvents such as water or alcohol.
Hazardous Decomposition Products:	None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:		
	Oral (LD50 Rabbit) :	> 2000 mg/kg body weight
Dermal:		
	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:		
	Inhalation (LC50 Rat) :	> 5.13 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Non-Irritating (Rabbit)	
Skin Sensitization:	Sensitizing (Guinea Pig)	

Reproductive/Developmental Effects

Mancozeb: No reproductive effects below toxic doses observed in a 2-year rat study.
No developmental effects seen below maternally toxic doses.

Mefenoxam: None observed.

Chronic/Subchronic Toxicity Studies

Mancozeb: Thyroid, liver and nervous system effects seen in laboratory animals at high, repeat doses.
Hind leg paralysis and retinopathy observed at 750 ppm (rat and dog studies).

Mefenoxam: Liver effects at high dose animal tests.

Carcinogenicity

Mancozeb: No relevant information suggesting a human carcinogenic risk. Thyroid tumors observed in rats at 750 ppm (2-year feeding study).

Mefenoxam: None observed.

Other Toxicity Information

None

Toxicity of Other Components

Stabilizer

Effects of overexposure: No information found for this material. It is anticipated that inhalation of significant quantities of this material will produce decreased lung capacity as is typical of nuisance dusts. Individuals who are sensitized to formaldehyde might exhibit allergic reactions from contact with this material.

Target Organs

Active Ingredients

Mancozeb: Thyroid, liver, blood, eye, skin, respiratory system

Mefenoxam: Liver

Inert Ingredients
Stabilizer: Lung

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Mefenoxam:

Fish (Rainbow Trout) 96-hour LC50 > 121 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 113 ppm

Bird (Bobwhite Quail) 14-day LD50 981 mg/kg

Mancozeb:

Fish (Rainbow Trout) 96-hour LC50 0.64 ppm

Green Algae 5-day EC50 47 ppb

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.58 ppm

Environmental Fate

Mancozeb:

The information presented here is for the active ingredient, mancozeb.
Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 h).

Mefenoxam:

The information presented here is for the active ingredient, mefenoxam.
Does not bioaccumulate. Not persistent in soil or water. Moderate mobility in soil. Mixes/sinks (after 24 h).

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

Ground Transport - NAFTA
Non-Bulk Packages: Not regulated.
Bulk Packages:
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Mancozeb), Marine Pollutant
Hazard Class or Division: Class 9
Identification Number: UN 3077
Packing Group: PG III
Note: Packages imported into the US are marked, labeled and distributed with the Class 9 International shipping classification.

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S., (Mancozeb), Marine Pollutant
Hazard Class or Division: Class 9

Identification Number: UN 3077
Packing Group: PG III

Air Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S., (Mancozeb)
Hazard Class or Division: Class 9
Identification Number: UN 3077
Packing Group: PG III
Note: This product is currently not regulated for airfreight within the NAFTA region. However, effective 01/01/2011 the above classification must be used.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

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

Section 313 Toxic Chemicals: Mancozeb (64.0%) (CAS No. 8018-01-7)

California Proposition 65

This product contains chemical (Mancozeb and ETU) known to the State of California to cause cancer. ETU is also known to the State of California to cause birth defects or other reproductive harm.

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	2
Flammability:	2	Flammability:	2
Instability:	1	Reactivity:	1

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: 3/16/2006
Revision Date: 7/28/2010 Replaces: 9/15/2008

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.

End of MSDS