

SECTION 1: PRODUCT INFORMATION

Product Identifier: RIDOMIL GOLD® MZ 68WG FUNGICIDE

Formulation Number: A9651D

Registration Number: 28893 (Pest Control Products Act)

Product Use: Fungicide. Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

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For further information, contact: 1-87-SYNGENTA (1-877-964-3682)

In Case of Emergency, Call: 1-800-327-8633 (FAST MED)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with UN GHS Version 5.

Hazard Classification(s): Eye Irritation – Category 2B
 Reproductive Toxicity – Category 2
 Skin Sensitization – Category 1

Hazard Symbol(s):



Signal Word: WARNING

Hazard Statement(s): H317 – May cause an allergic skin reaction.
 H320 – Causes eye irritation.
 H361 – Suspected of damaging fertility or the unborn child.

Precautionary Statement(s):

Prevention: P201 – Obtain special instructions before use.
 P202 – Do not handle until all safety precautions have been read and understood.
 P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 – Wash thoroughly after handling.
 P272 – Contaminated work clothing should not be allowed out of the workplace.
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Response: P302+P352 – IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313 – IF exposed or concerned: Get medical advice/attention.
 P321 – Specific treatment: See Section 4 of this SDS.

P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 – If eye irritation persists: Get medical advice/attention.

P362+P364 – Take off contaminated clothing and wash it before reuse.

Storage: P405 – Store locked up.

Disposal: P501 – Dispose of contents/containers to an approved waste disposal plant.

Other Hazards Which do not To avoid risk to human health and the environment, comply with the instructions for use.

Result in GHS Classification: Spontaneous combustion may occur at high temperatures or when exposed to water.

Exposure to excessive heat or ignition sources presents a definite ignition hazard.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Average % by weight
Manganese ethylenebis (dithiocarbamate) (polymeric) complex with zinc salt	Mancozeb	8018-01-7	64
Methyl-N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-D-alaninate	Metalaxyl-M & S-isomer	70630-17-0	4

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

SECTION 4: FIRST AID MEASURES

IF POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital. Have the product container, label or Safety Data Sheet with you when calling Syngenta, a poison control centre or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [**1-800-327-8633 (1-800-FASTMED)**], for further information.

Eye Contact: Flush eyes with clean water, holding eyelids apart for a minimum of 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eyes. Call Syngenta, a poison control centre or doctor for treatment advice. Obtain medical attention immediately if irritation persists.

Skin Contact: Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with running water for a minimum of 15-20 minutes. Call Syngenta, a poison control centre or doctor for treatment advice.

Inhalation: Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth, if possible. Call Syngenta, a poison control centre or doctor for treatment advice.

Ingestion: If swallowed, immediately contact Syngenta, a poison control centre, doctor or nearest hospital for treatment advice. Have person sip a glass of water if able to do so. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer water.

Most Important Symptoms/Effects, Acute and Delayed:

Causes eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

Indication of Immediate Medical Attention and Special Treatment:

There is no specific antidote.

Treat symptomatically.

If ingested, induce emesis or initiate gastric lavage.

SECTION 5: FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use foam, carbon dioxide, dry powder or halon extinguishant. DO NOT USE WATER.

Specific Hazards Arising from the Product: Spontaneous combustion may occur at high temperatures or when exposed to water. Exposure to excessive heat or ignition sources presents a definite ignition hazard. Keep containers tightly closed. Fire can occur in closely packed, unventilated piles. Exposure to moisture promotes decomposition which can cause spontaneous combustion. Dusts at sufficient concentrations can form explosive mixtures with air.

Mancozeb is liable to spontaneously combust at high temperatures or when exposed to water. This product has a minimum ignition energy between 300 and 100 millijoules.

Can decompose at high temperatures forming toxic gases. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special Protective Equipment and Precautions for Fire-Fighters: Wear full protective clothing and self-contained breathing apparatus. Evacuate non-essential 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 run-off can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Control the spill at its source. Clean up spills immediately, observing precautions outlines in Sections 7 and 8. Use adequate ventilation and equipment and wear clothing as described in Section 8 and/or the product label.

Environmental Precautions: Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory body.

Methods and Materials for Containment and Cleaning Up: Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into a compatible disposal container. On soils, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Do not wet or heat this product during storage as decomposition and the threat of fire can result. 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. Mechanical sparks, open flames and certain hot surfaces can serve as ignition sources for this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form.

Exposure to moisture promotes decomposition which can cause spontaneous combustion.

Dusts at sufficient concentration can form explosive mixtures with air.

This product has a minimum ignition energy between 300 and 100 millijoules.

KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing vapours, dust or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Protect product, wash or rinse water, and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people.

Conditions for Safe Storage, Including Any Incompatibilities: Store RIDOMIL GOLD MZ 68WG in a dry, well ventilated area. Ideally, store the product at temperatures below 30 °C, but never expose this material to temperatures in excess of 50 °C. Do not allow RIDOMIL GOLD MZ 68WG to become wet or over-heated as decomposition may result. Decomposition produces a foul odour due the formation of toxic, flammable gases. Remove wet/damp or hot containers immediately to an open area for disposal. Dense packing of bags may lead to decomposition. Store bags on pallets no more than 3 high. Loose bags should not be stacked more than 2x2x2 m. This product is combustible, protect from heat, sparks, open flames and other sources of ignition. Repair broken bags and clean up spilled material immediately. Refer to the product label for specific storage recommendations, including minimum storage temperature and freeze/thaw stability. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

SECTION 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.

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

Control Parameters:

Component	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Mancozeb	Not established	Not established	1 mg/m ³ TWA*	No	Not established
Metalaxyl-M & S-isomer	Not established	Not established	5 mg/m ³ TWA***	No	Not established

* Recommended by Manufacturer

** Recommended by NIOSH

*** Syngenta Occupational Exposure Limit (OEL)

**** Recommended by AIHA (American Industrial Hygiene Association)

† Material listed in Ingredient Disclosure List under the Hazardous Products Act

Appropriate Engineering Controls: If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV (threshold limit value). Warehouses, production areas, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

Individual Protection Measures:

General: Avoid breathing dust, vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling and before eating, drinking, applying cosmetics or handling tobacco.

Ingestion: Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

Eyes: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Skin: 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: A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH certified respirator with any N, R, P or 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light-yellow to light-brown granules.

Formulation Type: Wettable granule.

Physical State: Solid, granule.

Odour: Weak, uncharacteristic.

Odour Threshold: Not available.

pH: 6 – 8 (1% aqueous solution @ 25 °C).

Melting Point: Not available.

Freezing Point: Not applicable.

Initial Boiling Point and Boiling Range: Not available.

Flash Point: Not applicable.

Evaporation Rate: Not applicable.

Flammability (solid/gas): Spontaneous combustion may occur at high temperatures or when exposed to water. Exposure to excessive heat or ignition sources presents a definite ignition hazard. Exposure to moisture promotes decomposition, which can cause spontaneous combustion. Dusts at sufficient concentrations can form explosive mixtures with air.

Lower Explosive Limit: Not available.

Upper Explosive Limit: Not available.

Vapour Pressure: Mancozeb: Negligible @ 20 °C.
Metalaxyl-M & S-isomer: 2.50 x 10⁻⁵ mmHg @ 20 °C.

Vapour Density: Not applicable.

Relative Density: 0.45 – 0.65 g/cm³ @ 25 °C.

Solubility(ies): Mancozeb: 6.2 mg/L @ 20 °C, pH 7 (water).
Metalaxyl-M & S-isomer: 26,000 mg/L @ 20 °C, pH 7 (water).

Partition Coefficient (n-octanol water): Mancozeb: 0.3
Metalaxyl-M & S-isomer: 1.7

Auto-Ignition Temperature: 190 °C.

Decomposition Temperature: Not available.

Viscosity: Not applicable.

Other Information: Minimum ignition energy: between 300 and 1000 millijoules.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical Stability: Stable under normal use and storage conditions. Spontaneous combustion may occur at high temperatures or when exposed to water.

Possibility of Hazardous Reactions: Exposure to excessive heat or ignition sources presents a definite ignition hazard. Exposure to moisture promotes decomposition with can cause spontaneous combustion. Dusts at sufficient concentration can form explosive mixtures with air.

Conditions to Avoid: Keep containers tightly closed when not in use. Do not expose this material to flames of sparks. Minimize dusting as mancozeb dust can form explosive clouds. Mechanical sparks, open flames, and certain hot surfaces can serve as ignition sources for this material.

Incompatible Materials: Oxidizing agents, acids, polar solvents such as water or alcohol.

Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Dermal, inhalation, oral.

Symptoms of Acute Exposure: Causes eye irritation. May cause an allergic skin reaction.

Potential Health Effects: Suspected of damaging fertility or the unborn child.

Acute Toxicity/Irritation Studies (Finished Product):

Ingestion:	<u>Low Acute Toxicity</u> Oral (LD50 Rat)	> 2,000 mg/kg body weight
Dermal:	<u>Low Acute Toxicity</u> Dermal (LD50 Rabbit)	> 2,000 mg/kg body weight
Inhalation:	<u>Low Acute Toxicity</u> Inhalation (LC50 Rat)	> 5.13 mg/L air – 4 hours
Eye Contact:	<u>Mildly Irritating (Rabbit)</u>	
Skin Contact:	<u>Non-Irritating (Rabbit)</u>	
Skin Sensitization:	<u>Sensitizer (Guinea Pig)</u>	

Specific Target Organ Toxicity (STOT) Single Exposure:

Mancozeb: Not classified as a specific target organ toxicant, single exposure.

Metalaxyl-M & S-isomer: May cause substantial but temporary eye irritation.

Specific Target Organ Toxicity (STOT) Repeated Exposure:

Mancozeb: No adverse effect has been observed in chronic toxicity tests.

Metalaxyl-M & S-isomer: No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity:

Mancozeb: Did not show carcinogenic effects in animal experiments.

Metalaxyl-M & S-isomer: Did not show carcinogenic effects in animal experiments.

Reproductive Toxicity:

Mancozeb: Suspected of damaging the unborn child.

Metalaxyl-M & S-isomer: Did not show reproductive toxicity effects in animal experiments.

Mutagenicity:

Mancozeb: Did not show mutagenic effects in animal experiments.

Metalaxyl-M & S-isomer: Did not show mutagenic effects in animal experiments.

Aspiration Hazard:

Mancozeb: Not classified as an aspiration hazard.

Metalaxyl-M & S-isomer: Not classified as an aspiration hazard.

Toxicity of Other Components:

The acute toxicity test results reported in Section 11, above, for the finished product take into account any acute hazards related to the “other components” in the formulation.

SECTION 12: ECOLOGICAL INFORMATION

Eco-Acute Toxicity:

Mancozeb:

Invertebrates (Water Flea) 48-hour LC ₅₀ /EC ₅₀	1.0 ppm
Fish (Rainbow Trout) 96-hour LC ₅₀ /EC ₅₀	1.9 ppm
Birds (8-day dietary – Mallard Duck) LC ₅₀ /EC ₅₀	> 6,400 ppm

Metalaxyl-M & S-isomer:

Invertebrates (Water Flea) 48-hour LC ₅₀ /EC ₅₀	28 ppm
Fish (Rainbow Trout) 96-hour LC ₅₀ /EC ₅₀	130 ppm
Birds (5-day dietary – Bobwhite Quail) LD ₅₀	> 5,000 ppm

Persistence & Degradability:

Mancozeb: Low persistence in soil. Low persistence in water.
 Metalaxyl-M & S-isomer: Moderately persistent in soil. Persistent in water; partitions to sediment.

Bioaccumulation Potential:

Mancozeb: BCF < 500; does not bioaccumulate.
 Metalaxyl-M & S-isomer: BCF < 500; does not bioaccumulate.

Mobility in Soil:

Mancozeb: Moderate mobility in soil.
 Metalaxyl-M & S-isomer: Moderate mobility in soil.

Other Adverse Effects: Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods:

Waste from residues: Refer to the product label for specific disposal/recycling information.
 Do not contaminate ponds, waterways or ditches with chemical or used container.
 Do not dispose of waste into sewer.
 Where possible recycling is preferred to disposal or incineration.
 If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Refer to the product label for specific disposal/recycling information.
 Empty remaining contents
 Triple rinse containers
 Empty containers should be taken to an approved waste handling site for recycling or disposal.
 Do not reuse empty containers.

SECTION 14: TRANSPORT INFORMATION

TDG Classification – Road/Rail:

UN Number: UN 3077
 Proper Shipping Name: Environmentally Hazardous Substance, N.O.S., Solid (Mancozeb).
 Transport Hazard Class: Class 9
 Packing Group: PG III
 Environmental Hazards: Environmentally hazardous.

Water Transport – International (IMDG):

UN Number: UN 3077
 Proper Shipping Name: Environmentally Hazardous Substance, N.O.S., Solid (Mancozeb), Marine Pollutant.
 Transport Hazard Class: Class 9
 Packing Group: PG III
 Environmental Hazards: Marine pollutant.

Air Transport (IATA-DGR):

UN Number: UN 3077
 Proper Shipping Name: Environmentally Hazardous Substance, N.O.S., Solid (Mancozeb).
 Transport Hazard Class: Class 9
 Packing Group: PG III
 Environmental Hazards: Environmentally hazardous.

Special Precautions for User:

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:

Not applicable.

SECTION 15: REGULATORY INFORMATION

There are Canada-specific environmental requirements for handling, use and disposal of this pest control product that are indicated on the product label.

Hazardous Products Act Information:

This product has been classified in accordance with the amended Hazardous Products Act and the Hazard Criteria of the Hazardous Products Regulations (HPR), and the SDS contains all the information required by the HPR.

Hazardous Products Act Information: WHMIS 2015 Classification

This product is exempt under WHMIS 2015.

Pest Control Products Act (PCPA) Registration No.: 28893

Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act (PCPA). These requirements differ from the

classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control products label:


PCPA Label Hazard Communications:

Read the label and pamphlet before using.

Keep out of reach of children.

Potential Skin Sensitizer.

Caution: Eye Irritant.

<p>PCPA Hazard on Label: PCPA Precautionary Symbol:</p>	<p>Potential Skin Sensitizer Not applicable.</p>	<p>GHS Hazard Classification: GHS Hazard Symbol:</p>	<p>Skin Sensitization – Category 1 </p>
<p>PCPA Signal Word(s): PCPA Hazard Statement:</p>	<p>Not applicable. Not applicable.</p>	<p>GHS Signal Word: GHS Hazard Statement:</p>	<p>Warning H317 – May cause an allergic skin reaction.</p>
<p>PCPA Hazard on Label: PCPA Precautionary Symbol:</p>	<p>Eye Irritant Not applicable.</p>	<p>GHS Hazard Classification: GHS Hazard Symbol:</p>	<p>Eye Irritation – Category 2B Not applicable.</p>
<p>PCPA Signal Word(s): PCPA Hazard Statement:</p>	<p>Caution Not applicable.</p>	<p>GHS Signal Word: GHS Hazard Statement:</p>	<p>Warning H320 – Causes eye irritation.</p>

Allergens Contained in the Pest Control Product:

Product may cause an allergic skin reaction.

NPRI Components:

Not applicable.

SECTION 16: OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Syngenta will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant SDS. Hazardous properties of all ingredients have been considered in the preparation of this SDS. Read the entire SDS for the complete hazard evaluation of this product.

Full Text of Abbreviations:

AB – Province of Alberta
 BC – Province of British Columbia
 BCF – Bioconcentration factor
 EC₅₀ – Effective concentration, 50%
 GHS – Globally Harmonized System of Classification and Labeling of Chemicals
 LC₅₀ – Lethal concentration, 50%
 LD₅₀ – Lethal dose, 50%
 IARC – International Agency for Research on Cancer
 IATA-DGR – International Air Transport Association Dangerous Goods Regulations

IMDG – International Maritime Code for Dangerous Goods
 NTP – National Toxicology Program
 ON – Province of Ontario
 OSHA – Occupational Safety & Health Administration
 PEL – Permissible Exposure Limit
 TDG – Transportation of Dangerous Goods
 TLV – Threshold Limit Value
 QC – Province of Quebec
 SDS – Safety Data Sheet
 WHMIS – Workplace Hazardous Materials Information System

Changes since last revision: Converted to SDS format.

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Prepared by: Syngenta Canada Inc.

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END OF SAFETY DATA SHEET.