SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: RIDOMIL GOLD MZ 68 WG WG

Design code: A9651D

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use: Fungicide

1.3 Details of the supplier of the safety data sheet

Company: Syngenta UK Limited
CPC4, Capital Park
Fulbourn, Cambridge
CB21 5XE

1.4 Emergency telephone number

: +44 (0) 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin sensitization</td>
<td>Sub-category 1B</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.
2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms

Signal Word: Warning

Hazard Statements:
- H317: May cause an allergic skin reaction.
- H361d: Suspected of damaging the unborn child
- H410: Very toxic to aquatic life with long lasting effects

Precautions Statements:
- P102: Keep out of reach of children
- P201: Obtain special instructions before use.
- P280: Wear protective gloves/protective clothing
- P302/352: IF ON SKIN: Wash with plenty of soap and water
- P308/313: IF exposed or concerned: Get medical advice/attention.
- P391: Collect spillage
- P501: Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-hazardous waste.

Supplemental Information:
- EUH401: To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:
- mancozeb

2.1 Other hazards

May form flammable dust-air mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>mancozeb</td>
<td>8018-01-7</td>
<td></td>
<td></td>
<td>Repr.2; H361d Skin Sens.1; H317 Aquatic Acute1; H400</td>
<td>64 % w/w</td>
</tr>
<tr>
<td>metalaxyl-M</td>
<td>70630-17-0</td>
<td></td>
<td></td>
<td>Acute Tox.4; H302 Eye Dam.1; H318</td>
<td>4 % w/w</td>
</tr>
</tbody>
</table>

Substances for which there are Community workplace exposure limits.
For the full text of the H-Statements mentioned in this Section, see Section 16.
SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice: Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre or physician, or going for treatment.

Inhalation: Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.

Skin Contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice: There is no specific antidote available. Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Use alcohol-resistant foam or water spray. Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture
As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for fire-fighters:
Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Refer to protective measures listed in sections 7 and 8. Avoid dust formation.

6.2 Environmental precautions:
Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Do not create a powder cloud by using a brush or compressed air. Clean contaminated surface thoroughly. If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Potential for spontaneous combustion. To avoid thermal decomposition, do not overheat. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

This material can be thermally unstable at elevated temperatures. The material is thermally stable at normal ambient temperatures as packaged. Store the material away from sources of heat such as steam pipes, radiators or heaters. Maintain an air gap between individual packages. Do not repack into larger volume packages. Do not bulk up in silos, storage bins or hoppers without considering the potential product degradation/decomposition problem. Further advice is available from Syngenta. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Storage temperature < 35 °C.

7.3 Specific end use(s)

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8. EXPOSURE CONTROLS/PERSO NAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>Exposure limit(s)</th>
<th>Type of exposure limit</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>mancozeb</td>
<td>1 mg/m³</td>
<td>8 h TWA</td>
<td>SUPPLIER</td>
</tr>
<tr>
<td>metalaxyl-M</td>
<td>10 mg/m³</td>
<td>8 h TWA</td>
<td>SYNGENTA</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

   Engineering Measures : Containment and/or segregation is the most reliable technical
Protective measures: The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Respiratory protection: No personal respiratory protective equipment normally required. A particulate filter respirator may be necessary until effective technical measures are installed.

Hand protection: Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. The breakthrough time of gloves varies according to the thickness, material and manufacturer. Gloves should be changed when breakthrough is suspected. Suitable material: nitrile rubber.

Eye Protection: Eye protection is not usually required. Follow any site specific eye protection policies.

Skin and body protection: Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.). Wear as appropriate: dust impervious protective suit.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Form</td>
<td>Granules</td>
</tr>
<tr>
<td>Colour</td>
<td>Light yellow to light brown</td>
</tr>
<tr>
<td>Odour</td>
<td>Weak</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>5.9 at 1 % w/v (aqueous suspension)</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not highly flammable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>152 ºC</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
</tbody>
</table>
RIDOMIL GOLD MZ 68 WG

Viscosity, dynamic: No data available
Viscosity, kinematic: No data available
Explosive properties: Not explosive
Oxidizing properties: Not oxidising

9.2 Other information

Minimum ignition temperature: 340 °C
Dust explosion class: Forms flammable dust clouds
Minimum ignition energy: >1 J
Bulk density: 0.45 – 0.65 g/cm³
Miscibility: miscible
Surface tension: 57.8 mN/m at 20 °C
Burning number: 1 at 20 °C
5 at 100 °C

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: No information available
10.2 Chemical Stability: No information available
10.3 Possibility of hazardous reactions: Hazardous polymerisation does not occur. This material may degrade, decompose exothermically, and may even catch fire, when large quantities are exposed to elevated temperatures.
10.4 Conditions to avoid: No information available
10.5 Incompatible materials: No information available
10.6 Hazardous decomposition products: Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity: Median lethal dose male and female rat, > 5,000 mg/kg
Acute inhalational toxicity: Median lethal concentration male and female rat, > 5.13 mg/l 4 h
Acute dermal toxicity: LD50 male and female rat, > 5,000 mg/kg
Skin corrosion/irritation: Rabbit: Non-irritating
Serious eye damage/eye irritation: Rabbit: Mildly irritating
Respiratory or skin sensitisation: Guinea pig: a skin sensitiser in animal tests
Germ cell mutagenicity: Did not show mutagenic effects in animal experiments.
  mancozeb
  metalaxyl-m
Carcinogenicity: Did not show carcinogenic effects in animal experiments.
  mancozeb
  metalaxyl-m
Teratogenicity: Did not show teratogenic effects in animal experiments.
  metalaxyl-m
Reproductive toxicity: Suspected of damaging the unborn child.
  mancozeb
  metalaxyl-m
STOT – single exposure: May cause respiratory irritation
STOT – repeated exposure:
  mancozeb: No adverse effect has been observed in chronic toxicity tests.
  metalaxyl-M: No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50 Cyprinus carpio (Carp), 23 mg/l, 96 h
Toxicity to aquatic invertebrates: EC50 Daphnia magna Straus, 0.8 mg/l, 48 h
Toxicity to aquatic plants: ErC50 Pseudokirchneriella subcapitata (green algae), 0.219 mg/l, 72 h
NOErC Pseudokirchneriella subcapitata (green algae), 0.031 mg/l, 72 h

12.2 Persistence and degradability

Biodegradability
  Metalaxyl-M: Not readily biodegradable.
Stability in water:
  mancozeb: Degradation half life: 5.8 - 55 h. Not persistent in water
  metalaxyl-M: Degradation half life: 22.4 - 47.5 d. Not persistent in water
Stability in soil:
  mancozeb: Degradation half life: 6 - 15 h. Not persistent in soil
  metalaxyl-M: Degradation half life: < 50 d. Not persistent in soil

12.3 Bioaccumulative potential

Mancozeb: Does not bioaccumulate.
Metalaxyl-m: Low bioaccumulation potential

12.4 Mobility in soil

Mancozeb: Low mobility in soil.
Metalaxyl-M: Has a range from very low to very high mobility in soil depending on soil type.

12.5 Results of PBT and vPvB assessment

Mancozeb, metalaxyl-M: These substances are not considered to be persistent, bioaccumulating nor toxic (PBT).
These substances are not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

Other information: Classification of the product is based on the summation of the concentrations of classified components.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: 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: Empty remaining contents. Triple rinse containers.

Version 19
containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Land transport (ADR/RID)

| 14.1 UN Number                  | : UN 3077       |
| 14.2 UN proper shipping name   | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANCOZEB) |
| 14.3 Transport hazard class(es)| : 9             |
| 14.4 Packing Group             | : III           |
| 14.5 Environmental hazards    | : Environmentally hazardous |

Sea transport (IMDG)

| 14.1 UN Number                  | : UN 3077       |
| 14.2 UN proper shipping name   | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANCOZEB) |
| 14.3 Transport hazard class(es)| : 9             |
| 14.4 Packing Group             | : III           |
| 14.5 Environmental hazards    | : Marine pollutant |

Air transport (IATA-DGR)

| 14.1 UN Number                  | : UN 3077       |
| 14.2 UN proper shipping name   | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANCOZEB) |
| 14.3 Transport hazard class(es)| : 9             |
| 14.4 Packing Group             | : III           |
| 14.6 Special precautions for user| : none         |

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable
SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

GHS-Labelling

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th>Signal Word</th>
<th>: Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements :H317 May cause an allergic skin reaction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>:H361d Suspected of damaging the unborn child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>:H410 Very toxic to aquatic life with long lasting effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precautions Statements :P102 Keep out of reach of children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>:P201 Obtain special instructions before use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>:P280 Wear protective gloves/protective clothing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>:P302/352 IF ON SKIN: Wash with plenty of soap and water</td>
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<tr>
<td>:P308/313 IF exposed or concerned: Get medical advice/attention.</td>
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</tr>
<tr>
<td>:P391 Collect spillage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>:P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-hazardous waste.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks

Hazardous components which must be listed on the label:

- Mancozeb

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16. OTHER INFORMATION

Further information

Approval number, PCS No. 01516.

Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 09/01/2015, version 19 with local amendment.

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H361d Suspected of damaging the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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