



Technical data for plant protection product

Mancozeb 80 WP – Blue
800 g/kg Mancozeb (including 160 g/kg Mn and 16 g/kg Zn)
Wetable Powder



CLASSIFICATION AND LABELING

Classification of the substance or mixture

*Classification According Regulation (EC)
No 1272/2008 (CLP)*

Hazardous to aquatic environment - Acute 1
: Reproductive toxicity, hazard category 2
Skin sensitisation, hazard category 1

Label elements

*Labeling according to Regulation (EC)
No 1272/2008 (CLP)*

Hazard pictograms

:



Signal words

:

WARNING

Hazard statements

: *H361D* -Suspected of damaging the unborn child
H317 - May cause an allergic skin reaction.
H400 - Very toxic to aquatic life.

Precautionary Statements

: P202: Do not handle until all safety precautions have been read and understood
P261: Avoid breathing fume/gas/mist/vapours/spray
P280: Wear protective gloves / protective clothing / eye protection / face protection
P302+P352: IF ON SKIN: Wash with plenty of soap and water
P308+P313: If exposed or concerned: Get medical advice/attention
P333+P313: If skin irritation or a rash occurs: Get medical advice/attention
P363: Wash contaminated clothing before reuse
P391: Collect spillage
EUH208: Contains (hexamethylenetetramine). May cause an allergic reaction
EUH401: To avoid risks to human health and the environment comply with the instructions for use

SAFETY PRECAUTIONS

Individual protection measures, such as personal protective equipment

Respiratory protection



: In case of dust or aerosol formation use respirator with an approved filter. Half mask with a particle filter FFP2 (EN149).

Skin protection



: **In case of prolonged and repeated exposure**
Wear body-covering chemical resistant protective clothing.

Eye protection



: Use safety glasses with side shields (according to EN 166).

Hand protection



: **In case of short term exposure:**
Single-use vinyl gloves.
In case of prolonged or frequently repeated exposure
nitrile-rubber gloves with a protection class of 5 or higher breakthrough time > 240 minutes thickness > 0.4 mm.

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

- WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate.
- WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces. However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.
- WASH CONCENTRATE from skin and eyes immediately.
- WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.
- WHEN USING DO NOT EAT, DRINK OR SMOKE.

Environmental Protection

DO NOT CONTAMINATE surface waters or ditches with chemical or used container.

Storage and disposal

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

Store well away from seeds, fertilizers and animal feeding stuffs in a safe dry place designated as an agrochemical store.

Store below 30° C in dry, dark place.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

MIXING

- Prepare no more spray mixture than is required for the immediate operation.
- Thoroughly clean spray equipment before using this product.
- Agitate the spray solution before and during application.
- Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

- **Recommended Mixing Order:**
- (1) fill spray tank with half the required amount of water and begin agitation
- (2) add MANCOZEB 80 WP blue
- (3) add dry pesticide formulations
- (4) add fertilizers
- (5) add liquid pesticide formulation
- (6) add adjuvant (NIS)
- (7) add remainder of water and then maintain constant agitation.

Mixing in the Spray Tank

- Add 1/4 of the required amount of water to the spray or mixing tank.
- With the agitator running, add the tank-mix partner(s) into the tank in the same order as described above.
- Allow the material to completely dissolve and disperse into the mix water. Continue agitation while adding the remainder of the water.
- Spray the mixture with the agitator running.
- Observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label.
- Do not exceed any label dosage rates; the most restrictive label precautions and limitations must be followed.

NOTE: Do not let spray mixture stand overnight in the spray tank. Rinse spray tank at the end of the day.

CROP-SPECIFIC INFORMATION

Application Characteristics

	Bananas
<u>Pest/Group of pests:</u>	Black sigatoka (<i>Mycosphaerella fijiensis</i>)
<u>Maximum application rate:</u>	2.0 kg/ha
<u>Water application rate:</u>	ground - 200 – 600 L/ha aerial – 30 l/ha
<u>Time of application:</u>	Before infestation
<u>Maximum number of applications:</u>	apply at every 5-7 days
<u>Interval between applications in days:</u>	5-7
<u>Waiting period in days:</u>	Not requested
<u>Re-entry period in days:</u>	Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried
<u>Application Type:</u>	Foliar spraying



Leaf and fruit vegetables

<u>Pest/Group of pests:</u>	Mildew and leaf spot diseases
<u>Maximum application rate:</u>	2.0 kg/ha
<u>Water application rate:</u>	200 – 1000 L/ha
<u>Time of application:</u>	Before infestation
<u>Maximum number of applications:</u>	8
<u>Interval between applications in days:</u>	7-10
<u>Waiting period in days:</u>	7
<u>Re-entry period in days:</u>	Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried
<u>Application Type:</u>	Foliar spraying



	Rice
Pest/Group of pests:	Leaf scald (<i>Microdochium oryzae</i>) Sheath blight (<i>Rhizoctonia solani</i>)
<u>Maximum application rate:</u>	2.0 kg/ha
<u>Water application rate:</u>	200 – 600 L/ha
<u>Time of application:</u>	Before infestation
<u>Maximum number of applications:</u>	5
<u>Interval between applications in days:</u>	7-10
<u>Waiting period in days:</u>	14
<u>Re-entry period in days:</u>	Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried
<u>Application Type:</u>	Foliar spraying



Bean crops

<u>Pest/Group of pests:</u>	Rust (<i>Phakopsora pachyrhizi</i>)
<u>Maximum application rate:</u>	2.0 kg/ha
<u>Water application rate:</u>	ground - 200 – 600 L/ha aerial – 30 – 50 l/ha
<u>Time of application:</u>	Before infestation
<u>Maximum number of applications:</u>	5
<u>Interval between applications in days:</u>	7-10
<u>Waiting period in days:</u>	14
<u>Re-entry period in days:</u>	Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried
<u>Application Type:</u>	Foliar spraying



Mango

<u>Pest/Group of pests:</u>	Anthrachnose (<i>Colletotrichum gloeosporioides</i>)
<u>Maximum application rate:</u>	2.0 kg/ha
<u>Water application rate:</u>	ground - 200 – 600 L/ha aerial – 30 – 50 l/ha
<u>Time of application:</u>	Before infestation
<u>Maximum number of applications:</u>	5
<u>Interval between applications in days:</u>	7-10
<u>Waiting period in days:</u>	14
<u>Re-entry period in days:</u>	Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried
<u>Application Type:</u>	Foliar spraying



Coffee

<u>Pest/Group of pests:</u>	Rust (<i>Hemileia vastatrix</i>)
<u>Maximum application rate:</u>	2,5 – 3,0 kg/ha
<u>Water application rate:</u>	ground - 200 – 600 L/ha aerial – 30 – 50 l/ha
<u>Time of application:</u>	Before infestation
<u>Maximum number of applications:</u>	5
<u>Interval between applications in days:</u>	7-10
<u>Waiting period in days:</u>	14
<u>Re-entry period in days:</u>	Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried
<u>Application Type:</u>	Foliar spraying



TIMING

Spraying should commence preventively as soon as there is a risk of infection, but before infection.

Crops grown under irrigation should be regarded as at extreme risk at all times and treated at 7day intervals. Do not apply MANCOZEB 80 WP - blue if rainfall is imminent within 2 hours of application.

Treatment should be applied after irrigation.

DRIFT

Avoid spray drift outside those areas being sprayed.

COMPATIBILITY

The product is compatible with most of the commonly used pesticide and foliar fertilizers except those with alkaline reaction. Before preparing the relevant mixture – a preliminary consulting with a specialist is recommended.

FIRST AID MEASURES

Eye contact: Hold eyelids open to facilitate rinsing. Flush with copious amounts of water for at least 15 minutes. If symptoms persist, seek medical advice.

Skin contact: Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

Inhalation: Keep patient calm, remove to fresh air. Assist in breathing if necessary. Consult a physician.

Ingestion: Rinse mouth and then drink plenty of water. Do not induce vomiting.

FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media : Dry powder, carbon dioxide fire extinguishers. In case of large fires use water spray, foam extinguisher.

Unsuitable extinguishing media : Water jet.

Special hazards arising from the substance or mixture

Hazardous combustion products : In case of fire, along with other products of combustion, the smoke contains toxic gases – sulphur dioxide, nitrogen oxides, carbon monoxide and hydrogen sulphide.

Advice for firefighters

: Full impervious coverall clothing. Self-containing breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For those staff which does not meet for emergency

: Remove immediately.

For the persons responsible for emergency

: Eliminate all ignition sources (flame or spark).
Provide local and general exhaust ventilation.
Use protective clothing and gloves, respiratory mask with an effective particulate filter, chemical goggles for eye protection.

Environmental precautions

: In case of accidental release take precautions to protect the surface and underground water, soil and sewage from contamination. Remove the sources of heat and flames.

In case of spill into the sewage, surface water, ground water or soil notify the competent authorities immediately.

Methods and material for containment and cleaning up

For containment and cleaning

: Absorb with an inert material – sand, zeolite. Use vacuum cleaning. Do not dispose the product and/or contaminated materials into the sewage systems, water sources or water bodies. Collect into an appropriate, labelled tightly sealed waste container. Store the container at an appropriate place for further treatment or disposal according to the national legislation.

Other information

: Not available.

Reference to other sections

: The collected product and/or contaminated materials should be treated as a waste according to section 13.

HANDLING AND STORAGE

Precautions for safe handling

Precautionary measures: Use process enclosures, local exhaust ventilation and other suitable engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. (See section 8).

Measures to prevent fire: Dust may form explosive mixtures with air. All the areas where accumulation of dust in dangerously high concentrations may occur have to be indicated and provided with fire extinguishing systems/tools. Keep away from sources of ignition (open flames, sparkles).

Measures to prevent aerosol and dust: Regularly clean the premises and facilities wearing personal protective equipment and using professional fire-safe cleaning tools. Keep within the workspace only the quantities necessary for the normal working process.

Containers / packaging must not be left open.

Advice on general occupational hygiene: Do not eat, drink or smoke when handling the product. In case of contamination change the work clothing. Avoid inhalation, ingestion and contact with eyes and skin. Do not handle this product without wearing the recommended personal protective clothing and equipment.

Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions: Keep in unopened original packing. Keep in cool, dry, well-ventilated place far from sources of ignition. Prevent static electricity generation. Do not allow accumulation of dust in significant concentrations. Keep out of reach of children.

Requirements for storage rooms and vessels:

Keep away from:

- medicinal products, food, forage, fertilizers and seed
- hazardous infectious substances, radioactive substances, explosive substances highly reactive oxidizing substances

PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

(a) Appearance	: Blue powder
(b) Odor	: Light sulfur
(c) Odor threshold	: Not available
(d) pH	: 6.0 – 9.0 (1% solution)
(e) Flash point	: Did not ignite
(f) Flammability (solid)	: Not flammable
(g) Density	: Bulk density = 0.430 g/cm ⁻³ ; Tap density = 0.446 g/cm ⁻³
(h) Solubility(ies)	: The mixtures with water, ethanol and hexane showed separation of insoluble material in the two tested doses (maximum and minimum).
(i) Auto – ignition temperature	: 157.5 °C
(j) Explosive properties	: No evidence of Explosion risk
(k) Oxidizing properties	: Vigorous reaction with cellulose

Other information

Corrosion

: It is not corrosive to stainless steel;
Aluminum: 0.0313 mm / year; Copper: 0.0380 mm / year;
Iron: 0.1544 mm / year; Brass: 0.0204 mm / year

STABILITY AND REACTIVITY

Reactivity: No hazardous reactions when stored and handled according to instructions.

Chemical stability: Stable under normal conditions.

Conditions to avoid: Avoid storage at temperature > 35 °C in a confined place.

Slow decomposition in presence of heat and moisture. Prevent heating of the material to avoid thermal decomposition.

Incompatible materials: Avoid contact with strong oxidants and strong acids and basis.

Decomposes under alkaline and acidic conditions.

TOXICOLOGICAL INFORMATION

Acute oral toxicity:

LD₅₀ > 5000 mg/kg bw (female rats)

Acute dermal toxicity:

LD₅₀ > 2000 mg/kg bw (rats)

Inhalation toxicity:

LC₅₀ > 2.885 mg/L air 4h (rats)

Skin corrosion/ irritation: Non-irritant to skin in rabbits

Serious eye damage / irritation: Non-irritant to eye in rabbits

Respiratory or skin sensitization: Non skin sensitizer to Guiney pigs

Germ sell mutagenicity: Non mutagenic activity in Salmonella typhimurium trains

Carcinogenicity

: Not classified as a carcinogen

Reproductive toxicity

: Classified as toxic for reproduction Category 2

ECOLOGICAL INFORMATION

Acute toxicity for aquatic organism

Waterflea (*Daphnia magna*): EC₅₀ = 1.8 mg/l (24 h)

EC₅₀ = 1.38 mg/l (48 h)

Waterflea (*Daphnia magna*): NOEC = 0.1 mg/l (48 h);

Algae (*Pseudokirchneriella subcapitata*): E_rC₅₀ 0.1029 mg/l (72 h)

E_yC₅₀ 0.0476 mg/l (72 h)

Algae (*Pseudokirchneriella subcapitata*): NOEC = 0.01 mg/l (72 h)

LOEC = 0.05 mg/l

Toxicity for birds: LD₅₀ > 2000 mg/kg/day (*Japanese quail*)

Toxicity for fish: LC₅₀ (*Danio rerio*): 3.3 mg/l (96 h).

Toxicity for honeybees: LD₅₀ (*Apis mellifera*) > 100 µg/bee.

Toxicity for earthworms: LD₅₀ (*Eisenia foetida*) > 1000 mg/kg

Effects on soil micro-organisms: No long-term effect on carbon or nitrogen transformation in the two types of soils evaluated

DISPOSAL

Waste treatment methods: Disposal must be carried out in accordance with the provisions of the national legislation, in an environmentally safe manner.

Recommended treatment method: burning in appropriately licensed incinerators.

Collection of small product quantities:

Store in solid waste containers.

The container should be clearly labelled, with content description, danger indication symbols, R- and S- phrases. Store in well ventilated areas, until deposit to a licensed waste disposal company. The water used for contaminated surface washing should be collected for further treatment.

Do not reuse the empty containers for any other purpose.

Do not dispose into the sewage. Do not pollute natural water sources.

Waste code:

07 04 13* solid waste, containing dangerous substances

07 04 01* aqueous washing liquid and mother liquors

Waste code, packaging:

15 01 10* packaging containing residues of or contaminated by dangerous substances

TRANSPORT

General information

UN-No. (ADR) : 3077
UN proper shipping name : Environmentally hazardous substance, solid,
n.o.s (mancozeb)
Transport hazard class(es) : 9
Packing group : III
Environmental hazards : **Environmentally hazardous substance**
indication
ADR/RID/ IMDG-Code/ICAO-TI /IATA-DGR : **x**
yes / no
Marine pollutant: **x yes** / no

Marking

:

