

**MATERIAL SAFETY DATA SHEET****1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**

Product name: MANCOZEB 75 WP
Use / description of product: Use as an agricultural/horticultural fungicide
Company name: SOLAS CROPTECH PRIVATE LIMITED
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2. HAZARDS IDENTIFICATION

GHS Classification
Hazard Symbol



Signal word:
Hazard statement(s):

WARNING

H303 May be harmful if swallowed.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects..
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P284 Wear respiratory protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS	%
Active ingredient (Mancozeb)	8018-01-7	75
Other ingredients	-----	QS to make up 100

4. FIRST AID MEASURES

Most Important symptoms and effects, both acute and delayed

Skin contact
Eye contact

There may be mild irritation at the site of contact
There may be irritation and redness. The vision may become blurred



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Ingestion

There may be soreness and redness of the mouth and throat

Description of first aid measures

In general

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

After Ingestion

Do not induce vomiting. Provided the patient is conscious, wash mouth with water and give plenty of water to drink. Consult a physician. The decision of whether to induce vomiting or not should be made by a physician.

After eye contact

Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

After skin contact

Immediately wash skin with soap and plenty of water. Consult a physician if irritation develops.

After Inhalation

Remove to fresh air. Consult a physician if irritation develops

Indication of any immediate medical attention and special treatment needed

Supportive care. No specific antidote. Treatment based on judgement of physician, in response to symptoms of patient.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Water spray. Carbon dioxide. Dry chemical powder.

Exposure hazards:

May form flammable / explosive dust-air mixture. In combustion emits toxic fumes of sulphur Oxides, nitrogen oxides, carbon dioxide / carbon monoxide.

Protection of fire-fighters:

Wear self-contained breathing apparatus. Run-off from fire control may be a pollution hazard. If area is not too heavily exposed to fire, and if conditions permit, let fire burn itself out, since water may increase the contamination hazard.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Eliminate all sources of ignition. Do not create dust.

Environmental precautions:

Do not discharge into drains or rivers. Contain the spillage using bunding.

Clean-up procedures:

Transfer to a closable, labelled salvage container for disposal by an appropriate method.

Do not use equipment in clean-up procedure which may produce sparks.

7. HANDLING AND STORAGE

Handling requirements:

Ensure there is sufficient ventilation of the area. Smoking is forbidden. Use non-sparking tools.

When handling do not eat, drink or smoke.

Storage conditions:

Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed. Keep in original containers, out of reach of children Never allow the product to become wet during storage. This may lead to chemical changes,



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Suitable packaging:

which will reduce the effectiveness as a fungicide and could create flammable vapours.

Must only be kept in original packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures:

Ensure there is sufficient ventilation of the area. Ensure lighting and electrical equipment are not a source of ignition.

Respiratory protection:

Wear approved respirator.

Hand protection:

Protective gloves

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Eye protection:

Safety goggles.

Skin protection:

Mixers and loaders must wear overalls, protective goggles and chemical-resistant apron.

Applicators and other handlers must wear overalls, goggles and waterproof gloves. Any clothing or other absorbent material which has been drenched or heavily contaminated must be discarded.

9. PHYSICAL AND CHEMICAL PROPERTIES

State:

Solid Powder

Colour:

Yellow to pale yellow

Odour:

Sulphurous

Solubility in water:

Forms suspension in water

pH

6-8 (1% dispersion)

Flash point °C:

Not Applicable

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions.

Conditions to avoid:

Acids and moisture (in storage)

Hazardous decomp. products:

Elevated temperature or free water promotes decomposition, which may cause spontaneous combustion. In combustion emits toxic fumes. In combustion emits toxic fumes of sulphur oxides, carbon dioxide / carbon monoxide, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Hazardous ingredients:

MANCOZEB

Acute toxicity (Assessment largely or completely based on data for active substance)

Acute Oral LD₅₀ (Rat)

>2000 mg/kg

Acute Dermal LD₅₀ (Rat)

>2000 mg/kg

Acute Inhalation LD₅₀

> 5.14 mg/l

EYE Irritation (Rabbit)

May cause eye irritation.

SKIN Irritation (Rabbit)

Non irritant

Skin Sensitization (Guinea Pig)

sensitizing to Guinea pig skin



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12. ECOLOGICAL INFORMATION

Ecotoxicity: (Assessment largely or completely based on data for active substance)

Aquatic toxicity :

Material is very toxic to aquatic organisms.

Fish

LC₅₀ (96 h,)

Rainbow Trout < 1.0,

Bluegill sunfish < 1.0 mg/l

Algae EC₅₀ (120 hr)

Selenastrum capricornutum < 1.0 mg /L

Daphnia EC₅₀ (48 hr)

EC₅₀ < 1.0 mg/L

Bird

Material is practically non-toxic to birds.

Acute Oral, LD₅₀ (10 d)

Mallard ducks > 5500 mg/kg

Acute dietary, LC₅₀ (8 d)

Bobwhite quail and mallard ducks > 5200 mg/kg diet.

Honey Bee

Material is non-toxic to bees.

LD₅₀ (oral)

> 100 µg/bee;

LD₅₀ (contact)

> 100 µg/bee.

Earthworm

LC₅₀ (14 d)

Eisenia foetida > 1000 mg/kg soil.

Environmental Fate

Persistence and Degradability:

Half-life in soils is dependent on soil type and conditions and is approximately 6-15 days.

Bio-accumulation potential:

Bio-concentration potential is low.

Partition coefficient, n-octanol/water (log Pow): 1.38

Mobility in soil:

Potential for mobility in soil is low.

Partition coefficient, soil organic carbon/water (K_{oc}): 1000
Estimated

13. DISPOSAL CONSIDERATIONS

Disposal operations:

Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility.

Disposal of packaging:

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. TRANSPORT INFORMATION

U.S> Department of Transportation (DOT)

Bulk

UN no:

3077

Shipping name:

Environmentally Hazardous Substance, solid, n.o.s. (Mancozeb)

Hazard Class:

9

Packing group:

III

Land Transport (ADR / RID)

UN no:

3077



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Shipping name: Environmentally Hazardous Substance, solid, n.o.s. (Mancozeb)

Hazard Class: 9

Packing group: III

Marine Transport (IMDG / IMO)

UN no: 3077

Shipping name: Environmentally Hazardous Substance, solid, n.o.s. (Mancozeb)

Hazard Class: 9

Packing group: III

Marine pollutant: Yes

EmS: F-A, S-F

Air transport (IATA / ICAO)

UN no: 3077

Shipping name: Environmentally Hazardous Substance, solid, n.o.s. (Mancozeb)

Hazard Class: 9

Packing group: III

Cargo Packing instructions: 956

15. REGULATORY INFORMATION

Risk Symbol Xi



Xi - Irritant Risk Phrases

R36 – Irritating to eyes

R37 - Irritating to respiratory system.

R38 – Irritating to skin

R43 - May cause sensitisation by skin contact

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Legal disclaimer:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.