



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Mancozeb Technical
CAS No : 8818-01-7
Use : Contact Fungicide
Company Info : M/s HPM Chemicals & Fertilizers Ltd
209-210, Anupam Bhawan, Commercial Complex
Azadpur, Delhi-110033
Telephone : (011)-45071800, 899
Fax : (011)- 27681800
Website : www.hpmindia.com
E-mail : info@hpmindia.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Composition | Concentration |
|-----------------------|---------------|
| Mancozeb a.i. | 85.00% min. |
| Associated Impurities | 15.00% max |

3. HAZARDS IDENTIFICATION OF PREPARATION

Mancozeb is very rapidly absorbed and eliminated from the body.

- Harmful if absorbed through skin or inhaled. Causes moderate eye and skin irritation.
- Avoid breathing product vapors or spray mist. Avoid contact with eyes, skin or clothing.
- Keep out of reach of children.

Symptoms of over exposure are headaches, nausea, vomiting, cramps, weakness, blurred vision, pin point pupils, tightness in chest, labored breathing, nervousness, sweating, watering of eyes, drooling, muscle spasms and coma.

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.



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5. ACCIDENTIAL RELEASE

Avoid contact with the spilled material or contaminated surfaces. When dealing with spills do not eat, drink or smoke and wear personal protective clothing and equipment as described in the

PERSONAL PROTECTION section below. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material.

Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority. Neutralising chemicals are not required

6. FIRE-FIGHTING MEASURES

Flashpoint: 137.8 °C (Tag open cup).

Flammability limits: May be ignited by heat or open flame. Keep away from heat, sparks and flames. Extinguishing Media: Use the following extinguishing media when fighting fires involving this material: CO₂, dry chemical, water spray or foam. Use media appropriate for surrounding material.

Special Fire Fighting procedures: Wear self-contained breathing apparatus. Use water spray. Cool tank/container with water spray. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination hazard. Unusual Fire & Explosion Hazards: Pesticide particulates can become airborne. Combustion generates toxic fumes of the following: hydrogen sulphide, carbon disulphide and oxides of sulphur, nitrogen and carbon. Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air

7. HANDLING AND STORAGE

- Handling** : Use appropriate (impervious) clothing, gloves and closed foot ware to prevent the repeated contact with skin. Use flash proof and dust resistant goggles to prevent the contact with eyes.
- Storage** : Keep the product in original container tightly closed and correctly labeled. Store in suitable, cool, dry, well ventilated place under lock and key; away from the reach of the children, animals, food and animal feeding stuffs. Store away from the incompatible substances and source of ignition



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | | |
|--------------------------------------|---|--|
| Technical protective measures | : | None |
| Exposure controls limits | : | Not Established |
| Respiratory protection | : | Wear suitable mask |
| Hand protection | : | Wear impervious gloves |
| Eye protection | : | Wear flash proof and dust resistant goggles. |
| Skin protection | : | Wear impervious clothing and closed foot ware. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Greyish-yellow powder.
Odour: Sulphur odour
Melting point: Decomposes at 192-204 °C
Boiling Point: Not applicable
Vapour Pressure: Negligible at 20°C
Density: 1.92
Flashpoint: 137.8°C (Tag Open Cup)
Volatile component: 2-4 % water
Solubility in water: In water 6.2 ppm (pH 7.5, 25 °C)

10. STABILITY AND REACTIVITY

Stability: This material is considered stable for 2 years in its unopened package. However, keep away from moisture, heat or flame.
Polymerisation: Product will not undergo polymerisation.
Decomposition Products: Thermal decomposition may yield toxic fumes as described above.
Materials to avoid: Avoid contact with strong oxidising agents and acid

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Swallowed:
The oral LD₅₀ for rats is > 5000 mg/kg which indicates very low toxicity if swallowed.
Eye: Direct contact could cause irritation. Not classified as an eye irritant under EU guidelines.
Skin:
The dermal LD₅₀ for rats >10 000,
(rabbit) is > 5000 (low toxicity). Prolonged or repeated skin contact can cause possible skin irritation/dermatitis due to skin sensitization.
Unlikely to cause poisoning by skin contact.
Inhaled: Inhalation LC₅₀(rat) is >5.14 mg/L for 4 hr. Inhalation of dust can cause the irritation of nose and throat.



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Eye Irritation: Moderate eye irritant (rabbits).
Skin Irritation: Moderate skin irritant (rabbits).

12. ECOTOXICOLOGICAL INFORMATION

The following information refers to the active ingredient mancozeb:
Mancozeb is not hazardous to bees and is slightly toxic to birds. However mancozeb is highly toxic to warm-water fish and moderately toxic to cold-water fish and aquatic invertebrates. Mancozeb is extensively metabolised in plants to eventually form natural products, especially those derived from glycine. In mammals, mancozeb is rapidly absorbed into the body from the gastrointestinal tract but both metabolised and excreted very rapidly, usually within 96 hours. Representative ecotoxicity data are provided below: Birds: In 10-day dietary studies, there were no mortalities in mallard ducks at 6400 mg/kg daily, and in Japanese quail at 3200 mg/kg daily.
Fish: LC₅₀(48 h) for goldfish 9.0, rainbow trout 2.2, catfish 5.2, carp 4.0 mg/l.
Bees: LC₅₀ 0.193 mg/bee

13. DISPOSAL CONSIDERATION

Treatment and disposal methods: Product: Inactivate the product through incineration in ovens designed to this kind of operation, equipped with chambers to wash effluent gases that are according to the competent authority regulations.
Product residues: Keep eventual residues of the product and/or products with expiration date expired in their original packaging, duly closed. Used packaging: The empty packaging must be stored in a covered, ventilated place, protected from the rain and with waterproof floor, as well as contention dikes. Wear gloves when handling these packaging. The final destination of empty packaging can only be done by registering Company or user company or companies legally authorized by the competent authorities. The reuse of the empty packaging is forbidden for the user. They may be recycled if appropriate legislation is obeyed.

14. TRANSPORT INFORMATION

Proper shipping name: Environmentally hazardous substance, Solid, n.o.s. (Mancozeb Tech.)
UN number: 3077
Packing Group: III
Dangerous Goods Class: Class 9, Marine Pollutant

15. REGULATORY INFORMATION

US FEDERAL



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TSCA

CAS# 16672-87-0 is not listed on the TSCA inventory. It is for research and development use only.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPO.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 16672-87-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+

Risk Phrases:

R 26 Very toxic by inhalation.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28A After contact with skin, wash immediately with plenty of water



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WGK (Water Danger/Protection)

CAS# 16672-87-0: 2

CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.