

## 1: IDENTIFICATION

<b>Chemical Name</b>	Manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt		
<b>Synonyms</b>	Mancozeb 75% WP	<b>Trade Name</b>	<b>PANACA® (PANACA M-45)</b>
<b>Uses</b>	Fungicide	<b>Molecular Formula</b>	[C <sub>4</sub> H <sub>6</sub> MnN <sub>2</sub> S <sub>4</sub> ] <sub>x</sub> Zn
<b>Manufacturer/ Supplier</b>	Ulink AgriTech Pvt. Ltd. Office Nos. 001 And 002, Ground Floor Wing "A" And Nos. 003 And 004 Ground Floor Wing "B", Nyati Tech Park, Wadgaon Sheri, Pune - 411014, Maharashtra		
<b>Emergency Contact</b>	9503095030	<b>E-mail</b>	<a href="mailto:info@agrostar.in">info@agrostar.in</a>

## 2: COMPOSITION/INFORMATION OF INGREDIENTS

Chemical Name	CAS #	Percent or Content (w/w)
Mancozeb	8018-01-7	75.00%
Others	-	Q.S

## 3: HAZARD IDENTIFICATION

<b>Physical/Chemical Hazard:</b>	Aquatic Acute 1 & chronic 1	Skin Sens. 1
<b>Human Health Hazard:</b>	H317 May cause an allergic skin reaction	H303 May be harmful if swallowed.
	H361 Suspected of damaging fertility or the unborn child	H335 May cause respiratory irritation
	H373 May causes damage to organs through prolonged or repeated exposure	
<b>Environmental Hazard:</b>	H410 Very toxic to aquatic life with long lasting effects.	H400 Very toxic to aquatic life

## 4: FIRST AID MEASURES

**General:** Have the product container, label or safety data sheet while seeking medical attention, a poison control center or physician, or going for treatment.

**Inhalation:** Move patients to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing is difficult, treat with artificial respiration. Immediately seek medical attention if symptoms are severe or persist

**Ingestion:** Rinse mouth with water thoroughly and give plenty of water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed by physician. Seek medical attention or poison control center immediately and show this container or label.

**Skin Contact:** In case of contact with product, remove contaminated clothes and wash exposed skin area with plenty of water and soap immediately. Seek medical attention if irritation persists.

**Eye Contact:** Rinse immediately with plenty of water for several minutes. After 5 minutes remove contact lenses if present and continue rinsing with plenty of water. Continue to rinse with eyelid wide open for at least 15-20 minutes. Seek medical attention if irritation develops.

**Note to physician:** No specific Antidote. Treat symptomatically.

## 5: FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray or fog, alcohol-resistant foam, dry chemical powder or carbon dioxide

**Unsuitable Extinguishing Media:** No known

**Specific Hazards:** May form flammable / explosive dust-air mixture and may release oxides of carbon, nitrogen and sulphur, hydrogen sulfides and carbon sulfides in case of fire/explosion.

**Hazardous Thermal (de)composition:** The decomposition products are toxic fumes such as oxides of carbon, nitrogen and sulphur, hydrogen sulfides and carbon sulfides.

**Special Procedures:** Collect extinguishing water separately and do not discharge into the drain or water bodies. If risk of water pollution occurs, notify appropriate authorities. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

**Protection of Fire Fighters:** Do not breathe a fumes, Wear fire/ flame resistant/retardant clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

## 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Ensure adequate ventilation. Eliminate all sources of ignition from the area of spillage. Avoid contact with the skin, eyes and clothing. Use personal protective equipment. Evacuate personnel to safe areas and keep them away from and upwind of spill/leak.

**Environmental Precaution:** Do not allow runoff to enter drains and public waters. Notify the authorities if product enters.

**Methods for Cleaning-up:** Do not use equipment for cleaning which may produce spark. Clean up spills immediately by sweeping/ vacuum, observing precautions and transfer into labelled waste disposal containers. Clean contaminated floors and objects thoroughly with water and detergents. Dispose of in accordance with local regulations. Wear suitable protective equipment while cleaning.

## 7: HANDLING & STORAGE

**Handling:** Do not smoke, drink, or eat during handling. Wash hands and other exposed areas with mild soap and water before and after handling material. Wear protective equipments to avoid contact and/or inhalation with the product. Wash clothing and equipment before reuse. Good personal hygiene procedures must be practiced.

**Specific Conditions:** Good local exhaust ventilation. Do not handle or store near heat, sparks or any other potential ignition sources. Use non-sparking tools.

**Storage:** Store in dry, cool, well-ventilated area. Keep in original container and tightly closed when not in use. Keep product away from children, seeds, fertilizer, foods and animal feeds. Protect from direct sunlight, heat, sparks or any other potential ignition sources.

## 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Engineering Measures:** Ensure adequate ventilation or other engineering controls. Facilities storing or utilizing this material should be equipped with eyewash facility and safety shower. Handle in accordance with good industrial hygiene and safety practice.

**General Protection:** Avoid breathing dust, vapours or aerosols. Avoid contact with eyes and skin. While handling the product wear cotton overalls buttoned to the neck and wrist, elbow-length PVC gloves, shoes plus socks, chemical resistant headgear for overhead exposures. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

**Personal Protection:** Follow all precautions and instructions on the label. In all other cases the following recommendations would apply.

**Respiratory Protection:** Always use NIOSH/MSHA approved respiratory protection equipment with a universal filter type including particle filter.

**Skin Protection:** Wear suitable protective clothing, including long sleeved shirt, long pants, gloves, coveralls, and boots to avoid skin contact.

**Hand Protection:** Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC) or Viton.

**Eye protection:** Safety goggles, chemical splash goggles or face shield should be used. Safety showers and eyewash should be easily available.

**Others:** Wash clothing before reusing.

## 9: PHYSICAL/CHEMICAL PROPERTIES

<b>Appearance:</b> Powder	pH: 6- 8 (1% dispersion)	<b>Physical State:</b> Solid	<b>Solubility in water:</b> Forms a suspension
<b>Colour:</b> Yellow to pale yellow	<b>Bulk density[g/cc]:</b> 0.35 –0.50		<b>Odour :</b> Sulphurous

## 10: STABILITY & REACTIVITY

**Stability:** Stable under normal circumstances.

**Conditions to Avoid:** Mixture, heat, open flames or other source of ignition.

**Hazardous Decomp. Products:** Hydrogen Sulfide, Carbon Disulfide, Oxides of carbon, nitrogen and sulphur

**Materials to Avoid:** Acids

**Hazardous Reaction:** Elevated temperature or free water promotes decomposition, which may cause spontaneous combustion.

## 11: TOXICOLOGICAL INFORMATION

Rat oral LD50 [mg/kg] : >2000	Rat inhalation LC50 [mg/l/4h]: >5.14	Skin irritation (rabbit): Non- irritant
Dermal (rat) LD50 [mg/kg]: >2000	Skin Sensitization (Guinea Pig): Possible sensitizer	Eye irritation (rabbit): Slightly irritant

## 12: ECOLOGICAL INFORMATION

**Ecotoxicity:**

Bluegill sunfish LC50 (96 hrs)[mg/L]: >1

Mallard ducks LC50[mg/kg]: >5500

Honey Bee LD50 (oral) [µg/bee] > 100

**Bio-accumulation Potential:** Low potential to bioaccumulate.

**Persistence, Degradability and Mobility in soil:** Half-life in soils is dependent on soil type and conditions and is approximately 6-15 days. Mobility in soil is low

## 13: DISPOSAL CONSIDERATION

**Waste-disposal Procedures:** Dispose of this product only according to the label. Do not contaminate drains, streams, rivers or waterways with the chemical or used container. Break, crush, or puncture and dispose to waste management facility or dispose of in compliance with local regulations.

**Contaminated Packaging:** Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the product. Do not reuse container.

## 14: TRANSPORT INFORMATION

**UN No.** 3077 **Proper Shipping Name:** Environmentally Hazardous Substance, solid, n.o.s. (Mancozeb)

**Land Transport (ADR/RID):** Class-9, Packing Group-III

**Air Transport (IATA / ICAO):** Class-9 Packing group-III, Environmental hazard mark-Yes

**Sea Transport (IMO) (IMDG):** Class-9, Packing group-III, Marine Pollutant-Yes, EmS: F-A, S-F

## 15: REGULATORY INFORMATION

**Hazard Symbol:** Xi: Harmful, irritant GH07, GHS08, GHS09

**Risk Phrase:** R 36, R 37, R 38, R 43

## 16: OTHER INFORMATION

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