

INDOFIL CHEMICALS COMPANY
 KOLSHET, OFF SWAMI VIVEKANAND ROAD,
 AZAD NAGAR, SANDOZ BAUG P.O.,
 THANE – 400 607. MAHARASHTRA (INDIA)
 TEL. NO. : 00-91-22-6799 9100
 FAX NO. : 00-91-22-2589 83 57 / 59



MATERIAL SAFETY DATA SHEET

2-R&D-MSDS- AGRO-FP- 417

SECTION 1. PRODUCT IDENTIFICATION		
Chemical Name	Mancozeb 75 WP IUPAC : Manganese ethylene (dithiocarbamate) (polymeric) complex with Zinc salt	Company Identification INDOFIL CHEMICALS COMPANY KOLSHET, OFF SWAMI VIVEKANAND ROAD, AZAD NAGAR, SANDOZ BAUG P.O., THANE – 400 607. MAHARASHTRA (INDIA) TEL. NO. : 00-91-22-6799 9100 FAX NO. : 00-91-22-2589 83 57 / 59
Trade Name	Indofil M-45 75 WP	GROUP : ALKYLNE bis(dithiocarbamate)
Synonyms	Mancozeb	CLASS : EDBC FUNGICIDE
CAS Number	8018-01-7	
Formula	$(C_4H_6 N_2MnS_4)_x(Zn)_y$	

SECTION 2. COMPOSITION / INFORMATION OF INGREDIENTS

COMPONENT NAME	CAS REGISTRY NO	CONCENTRATION
Mancozeb	8018-01-7	75%
Inert ingredients		-----

SECTION 3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Physical state : POWDER

Colour : YELLOW

INGESTION : Harmful if swallowed.

INHALATION : Harmful if inhaled.

EYE CONTACT : May cause eye irritation.

SKIN CONTACT : May cause irritation.

DELAYED EFFECTS : No delayed effects known.

IMMEDIATE HEALTH EFFECTS

Eye contact	Slightly irritation to eyes
Skin contact	Moderately irritating to skin
Ingestion	Harmful if swallowed
Inhalation	Harmful if inhaled

DELAYED OR OTHER HEALTH EFFECTS

Target organs	-----
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An "X" in the box adjacent to the hazard title indicates OSHA Hazard classification. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication standard (29 CFR 1910.1200)

OSHA Health Hazard Classification	OSHA Physical Hazard Classification
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Toxic <input type="checkbox"/>	Highly Toxic <input type="checkbox"/>	Flammable <input checked="" type="checkbox"/>	Oxidizer <input type="checkbox"/>
Irritant <input type="checkbox"/>	Sensitizer <input type="checkbox"/>	Combustible <input type="checkbox"/>	
Corrosive <input type="checkbox"/>	Carcinogenic <input type="checkbox"/>	Explosive <input type="checkbox"/>	Organic Peroxide <input type="checkbox"/>
		Pyrophoric <input type="checkbox"/>	unstable <input type="checkbox"/>
		Organic peroxide <input type="checkbox"/>	water-reactive <input type="checkbox"/>

SECTION 4 : FIRST AID MEASURES

Eye	Flush eyes with plenty of water for at least 15 minutes and see doctor
Skin	Remove contaminated clothes, wash skin with soap and water.
Ingestion	If swallowed dilute by giving 2 glasses of water to drink and call a doctor. Never give any by mouth to an unconscious person.
Inhalation	Move subject to fresh air and rest
Notes to physician	No specific antidote.

SECTION 5 : FIRE FIGHTING MEASURES

NFPA Flammability Classification	-----
NFPA RATINGS	Health: 1 Flammability :1 Reactivity:----
OSHA classification	No data
Flash point	NA
Flammability (Explosive limits)	NA
Auto ignition Temperature (°C)	152°C
Hazardous	No data

Combustion products	
Extinguishing Media	Use Water spray, Carbon Dioxide, Foam or Dry chemical
Protection of Fire Fighters	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Special Properties	Avoid breathing fumes from fire exposed material
SECTION 6 : ACCIDENTAL RELEASE MEASURES	
Protective Measures	Eliminate all sources of ignition in the vicinity of the spill. If this material is released into the work area, evacuate the area immediately.
Spill Management	Scoop or shovel solid material into a suitable container. Keep dust to minimum. Flush cleaned area with water to chemical sewers. Keep spills and cleaning runoffs of municipal sewers and open bodies of water.

SECTION 7 : HANDLING AND STORAGE

Handling	
Storage	Store in a dry shaded, well ventilated area. Do not allow it to become wet or over heated in storage because degradation of the material may occur and fire may be result. Provide plenty of ventilation to dissipate heat.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls	Provide exhaust ventilation or other engineering controls. An emergency eye wash station and safety shower should be located near the work-station .
Personal Protective Equipment	<p>Eye Protection: Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact. Contact lenses should not be worn when working with this chemical</p> <p>Hand protection: Avoid skin contact .Use gloves. Wash hands with plenty of mild soap and water before eating, drinking, use of toilet facilities or leaving work.</p> <p>Body protection: Avoid skin contact. Wear long-sleeved fire-retardant garments. Additional chemical-resistant protective gear may be required. This may include an apron, boots and additional facial protection.</p> <p>Respiratory Protection: Wear suitable respirators where exposure limits are exceed. An air-supplied respiratory protection must confirm to OSHO rules as specified in 29 CFR1910.134.</p> <p>Skin Protection : Wear insulated neoprene gloves for handling the material select in accordance with OSHO 29 CFR 1910.133.</p> <p>Work practices: users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash</p>

	thoroughly and change into clean clothing. Deluge safety shower and eye wash station should be located in work area
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Occupational exposure limits

Component	Limit	TWA	STEL	Ceiling
Mancozeb	OSHA	No data	No data	For manganese compounds 5 mg/m ³
	ACGIH			

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Powder	Appearance	Yellow Powder
Odor	Odourless	PH	6 to 8
Bulk density	0.35 –0.50 g/ml	Solubility in water @	Dispersible
Vapor pressure @ (mm Hg)	No data	Vapor density (Air=1)	NA
Viscosity	--	Boiling point	NA
Melting point (°C)			

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Stable
Conditions to Avoid	Keep dry and avoid excessive heat (> 49°C) and ignition sources.
Hazardous Decomposition Products	Hydrogen Sulfide, Carbon Disulfide, Oxides of carbon, Nitrogen and Sulphur
Hazardous Polymerization	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Oral toxicity	LD 50 > 5000 mg/kg for rats
Acute Dermal toxicity	Rabbits LD 50 > 2000 mg/kg
Acute Inhalation toxicity	No data
Eye irritation: Slightly irritating to rabbits Skin irritation: Moderately irritating to rabbits	

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Contamination of both terrestrial and marine environments should be avoided
Environmental fate	No data

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method
 Container disposal : triple rinse puncture and dispose off in accordance with state regulation.

SECTION 14 : TRANSPORT INFORMATION

	Not regulated as a hazardous material by any mode of transportation. It is not a marine pollutant. Export water (IMO) : Not regulated Air (ICAO / IATA) : Not regulated
DOT Shipping Name	MANCOZEB
DOT Hazard class	Lowest (Green Hazard Label)
DOT identification number	No data
DOT packing Group	No data
DOT additional information	Drum to be placed in a well-ventilated area and in a secure position.

SECTION 15: REGULATORY INFORMATION

TSCA Inventory	No data
SARA 311/312 Hazard Identification	Immediate (acute) health effects: yes Delayed (chronic) health effects : No Reactive: yes This product contains the substances subject to the reporting requirements of SARA title 3, section 313 and 40 CFR part 372.
SARA 302/304 Emergency planning and notification	No data
SARA 313 Toxic chemical notification and Release reporting	This product contains the following components in concentrations above that are listed as toxic chemicals in 40 CFR part 372 pursuant to the requirements of section 313 of SARA. Ethylene thiourea
CERCLA	No data
Clean air act (CAA)	Not applicable

SECTION 16: OTHER INFORMATION

NFPA RATINGS	Health : 1	Flammability :1	Reactivity :1
HMIS RATINGS	Health : 1	Flammability :1	Reactivity :1
	0 = Least 1= slight 2= Moderate 3= High 4=Extreme		

ABBREVIATIONS

STEL	Short term exposure limit
ACGIH	American conference of Government Industrial Hygienists
NIOSH	National institute of safety and health
SARA	Super fund Amendments and Reauthorization Act
TWA	Time weighted average
OSHA	Occupational safety and health
NFPA	National Fire protection agency
HMIS	Hazardous Materials information system
RCRA	Resource conservation Recovery act
TSCA	Toxic substance Control Act
WHMIS	Work place Hazardous Materials information system
IRAC	International Agency for Research on Cancer

MANUFACTURE'S / SUPPLIER'S DATA

Name of Firm : INDOFIL CHEMICALS COMPANY				
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Telephone 6799 9100	Telex		Telephone 22767 5084	Telephone 22712 2302
Fax 589 8357	Telegraphic Code		Fax 22767 5083	Fax 22712 9242
Local Bodies Involved	Collector of Thane			

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