

# MATERIAL SAFETY DATA SHEET

## TRINEB 80 WP FUNGICIDE

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT** : Trineb 80 WP Fungicide

**Chemical Family** : Dithiocarbamat

**Chemical Name** : Manganese Ethylene Bis(Dithiocarbamat) (Polymeric)

**COMPANY IDENTIFICATION:**

**PT. Nufarm Indonesia**

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### 2. HAZARDS IDENTIFICATION

**Emergency Overview**

Light to grayish-yellow powder, slight fishy odor

- May cause allergic skin reaction
- Harmful by inhalation, in contact with skin and if swallowed
- May cause thyroid damage after repeated exposure based on animal data

**Potential Health Effects**

- Repeated or long-term exposure may cause adverse effects on the thyroid
- Inhalation
- Skin contact

- Eyes** : May cause slight irritation
- Skin** : Repeated or prolonged skin contact may cause allergic reaction  
With susceptible person
- Inhalation** : May cause irritation of respiratory tract
- Ingestion** : May be harmful if swallowed

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS NO	% BY WEIGHT	OSHA PEL
Maneb	12427-38-2	80	N/A
Ethylene thiourea	96-45-7	0 – 0.5	N/A

### 4. FIRST AID MEASURES

- Inhalation** : Move person to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- Skin contact** : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- Eye contact** : Rinse immediately with plenty of water, also under the eyelids for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting
- Medical advice** : There is no specific antidote available.  
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES



**Engineering Controls** : Investigasi engineering techniques to reduce exposure. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems

**Personal Protective Equipment**

**Eye/face Protection** : Avoid contact with eyes. Goggles

**Skin Protection** : Rubber gloves. Wear protective gloves/clothing

**Respiratory Protection** : Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposure cannot be kept at a minimum with engineering control, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitation specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection program must comply with CFR 1910.134

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** : Light to grayish-yellow powder  
**Odor** : Slight fishy  
**pH (1% H<sub>2</sub>O)** : 7 – 9  
**Specific Gravity** : 0.45 – 0.65 g/ml  
**Vapor Pressure** : negligible  
**Vapor Density** : NA  
**Melting Point** : Decomposes before melting  
**Freezing Point** : NA  
**Boiling Point** : NA

<b>Solubility in Water</b>	: Soluble
<b>Solubility in Other Materials</b>	: Insoluble in most organic
<b>Evaporation Rate</b>	: N/A
<b>Percent Volatile</b>	: N/A
<b>Other Physical Data</b>	: Pour density : 370 – 420 kg/m <sup>3</sup> Tap density : 540 – 560 kg/m <sup>3</sup>

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	: Stable under recommended storage conditions
<b>Condition to avoid</b>	: Protect from water, heat, flame and spark
<b>Incompatible Material</b>	: Strong oxidizing agent. Strong acids, quaternary ammonium Salts. EDBC sequestering agents
<b>Hazardous Decomposition Products</b>	: Carbon disulfide, ethylene thiourea
<b>Possibility of Hazardous Polymerization</b>	: Hazardous polymerization does not occur

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Product information</b>	: <b>Maneb</b> Single exposure studies indicate that this material is practically non-toxic if swallowed (rat LD <sub>50</sub> > 5,000 mg/kg), no more than slightly toxic if absorbed through skin (rabbit LD 50 > 2,000 mg/kg), practically non-toxic if inhaled (rat 4hr LC <sub>50</sub> 5.34-7.38 mg/l) and slightly irritating to rabbit eyes and skin. An increased risk of retinal degeneration was observed in some workers. Skin allergy has been observed in guinea pigs following repeated exposure. Repeated and long-term oral administration produced adverse effects on the thyroid in mice, rats and dogs. Long-term oral administration produced an increased of lung tumor in mice of one strain, but not in three other strains. No effects were seen on the ability of male or female rats to reproduce when exposed orally for multiple
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generation, although adverse effects were noted in the liver and thyroid. Developmental delays, but no birth defects, were observed in the offspring of rats exposed orally during pregnancy, but only at doses that produced adverse effects on the mothers. No genetic changes were observed in tests using bacteria, animal cells or animals.

**Chronic Toxicity**

**Carcinogenicity** : The information below indicates whether any agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Maneb		Group 3		

IARC : International Agency for Research on Cancer  
A trace contaminant, Ethylene thiourea (ETU) a breakdown product of maneb, has been categorized as a probable human carcinogen by NTP

**12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information**

**Maneb**

This material is moderately toxic to guppies (96-hr LC<sub>50</sub> 3.7 mg/l), Daphnia magna (48-hr LC<sub>50</sub> 1 mg/l) and algae (96-hr EC<sub>50</sub> 3.2 mg/l). No effects were seen on the ability of Bobwhite quails or mallard ducks to reproduce following oral exposure.

**Chemical Fate Information**

**Maneb**

This material is not readily biodegradable (33% after 28-days).

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Method** : Dispose of content/container in accordance with local regulation. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law.



If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Contaminated Packaging** : Empty containers should be taken for local recycling, recovery or waste disposal

#### 14. TRANSPORT INFORMATION

##### IMDG/IMO

**Proper Shipping Name** : Environmentally hazardous substance, solid, n.o.s. Maneb  
**Hazard Class** : 9  
**UN-No** : 3077  
**Packing Group** : PG III  
**Marine Pollutant** : This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

#### 15. REGULATORY INFORMATION

##### Hazard Categories Under Criteria of SARA Title III Rules

**Chronic Health Hazard** Yes  
**Acute Health Hazard** Yes  
**Fire Hazard** No  
**Sudden Release of Pressure Hazard** No  
**Reactive Hazard** No

##### Ingredient Related Regulatory Information

SARA Reportable Quantities	CERLA RQ	SARA TPQ
Maneb	NE	NE
Ethylene thiourea	10 LBS	NE

#### 16. OTHER INFORMATION

Not available