

**DuPont™ Manzate® Flowable Fungicide**

Version 2.2

Revision Date 09/29/2011

Ref. 130000000431

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : DuPont™ Manzate® Flowable Fungicide  
Tradename/Synonym : DPX-07331  
Manzate 200 Flowable  
Manex II  
Euro SC  
B12262597  
MANCOZEB (A Coordination product of zinc ion and manganese ethylenebisdithiocarbamate)

MSDS Number : 130000000431

Manufacturer : DuPont  
1007 Market Street  
Wilmington, DE 19898

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)  
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)  
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION**

## Emergency Overview

## Caution

Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes and clothing. Avoid breathing vapours or mist. Remove and wash contaminated clothing before re-use. Causes moderate eye irritation.

## Potential Health Effects

This section includes potential acute adverse effects which could occur if this material is not used according to the label.

## Skin

Mancozeb : May cause allergic skin reaction.

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**Eyes**

Mancozeb : May irritate eyes.

**Inhalation**

Mancozeb : Causes respiratory tract irritation.

**Target Organs**

Mancozeb : Thyroid

**Carcinogenicity**

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Mancozeb	8018-01-7	37 %
Other Ingredients		63 %

**SECTION 4. FIRST AID MEASURES**

- Skin contact** : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- Inhalation** : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

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- Ingestion : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.
- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
For medical emergencies involving this product, call toll free 1-800-441-3637.  
See Label for Additional Precautions and Directions for Use.

**SECTION 5. FIREFIGHTING MEASURES**

- Fire and Explosion Hazard : Burning produces noxious and toxic fumes. Hazardous combustion products may include: carbon disulfide Sulphur oxides nitrogen oxides (NOx) Carbon oxides
- Suitable extinguishing media : Dry chemical, Carbon dioxide (CO<sub>2</sub>), Water spray, Foam
- Unsuitable extinguishing media : High volume water jet, (contamination risk)
- Firefighting Instructions : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.  
Evacuate personnel and keep upwind of fire. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
- Spill Cleanup : Soak up with sawdust, sand, oil dry or other absorbent material. Dispose of in an approved container. If liquid has been spilt in large quantities clean up

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promptly by scoop or vacuum.

Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. For minor spills, leaks, etc., follow all precautions indicated on the label and clean up immediately.

Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas.

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Temperature extremes will affect the quality. Store product in original container only in a location inaccessible to children and pets. Observe label precautions.
- Storage temperature : > 0 °C (> 32 °F)

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Personal protective equipment
- Eye protection : Wear protective eyewear to prevent contact with this substance.
- Skin and body protection : Applicators and other handlers (other than mixers and loaders) must wear:  
Coveralls worn over long-sleeved shirt and long pants  
Chemical-resistant gloves  
Shoes plus socks  
Protective eyewear  
Mixer and loaders must wear:  
Coveralls worn over long-sleeved shirt and long pants  
Chemical-resistant gloves  
Shoes plus socks  
Protective eyewear  
Chemical resistant apron when mixing or loading

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Refer to the product label for PPE requirements for early entry.

Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines  
Exposure Limit Values

Mancozeb

PEL:	(OSHA)	5 mg/m3	TLV-C as Mn
AEI *	(DUPONT)	2 mg/m3	8 hr. TWA Total dust.
AEI *	(DUPONT)	1 mg/m3	12 hr. TWA Total dust.

\* AEI is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEI are in effect, such limits shall take precedence.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form	: liquid
Color	: light yellow
Odor	: sulphurous
pH	: 7.5
Melting point	: 0 °C (32 °F)
Boiling point	: 100 °C (212 °F)
	Water
% Volatile	: 53 - 56 %
Vapour Pressure	: 22.6 hPa at 20 °C (68 °F)
Density	: 1.3 g/cm3
Specific gravity	: 1.29 - 1.31 (Water=1.0)
Water solubility	: dispersible
Viscosity	: 1,160 cP

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**SECTION 10. STABILITY AND REACTIVITY**

Stability	: Stable at normal temperatures and storage conditions.
Conditions to avoid	: Temperature > 49 °C (> 120 °F)
Incompatibility	: Avoid: Oxidizing agents, Acids
Hazardous decomposition products	: Hazardous thermal decomposition products:: carbon disulfide

**SECTION 11. TOXICOLOGICAL INFORMATION**

## DuPont™ Manzate® Flowable Fungicide

Inhalation 4 h LC50	: > 4.8 mg/l , rat
Dermal LD50	: > 2,000 mg/kg , rabbit
Oral LD50	: > 5,000 mg/kg , rat
Skin irritation	: slight irritation, rabbit
Eye irritation	: Moderate eye irritation, rabbit
Sensitisation	: Animal test did not cause sensitization by skin contact., animals (unspecified species)

## Mancozeb

Repeated dose toxicity	: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.  Inhalation rat  Thyroid effects  Oral - feed rat  Thyroid effects
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Oral - feed  
dog

Thyroid effects

Carcinogenicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

An increased incidence of tumours was observed in laboratory animals.

Mutagenicity : Did not cause genetic damage in cultured bacterial cells.  
Evidence suggests this substance does not cause genetic damage in cultured mammalian cells.  
Evidence suggests this substance does not cause genetic damage in animals.

Reproductive toxicity : Animal testing showed no reproductive toxicity.

Teratogenicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

**SECTION 12. ECOLOGICAL INFORMATION**

## Aquatic Toxicity

Mancozeb

96 h LC50 : Oncorhynchus mykiss (rainbow trout) 0.073 mg/l

48 h ErC50 : Pseudokirchneriella subcapitata (green algae) 0.43 mg/l

48 h EC50 : Daphnia magna (Water flea) 0.073 mg/l

Additional ecological information : Environmental Hazards: This product is toxic to fish. Run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, or to areas where surface water

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is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. See product label for additional application instructions relating to environmental precautions.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Disposal : Refer to the product label for instructions.  
Do not transport if this container is damaged or leaking.

In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

**SECTION 14. TRANSPORT INFORMATION**

IATA_C	UN number	: 3082
	Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (Mancozeb)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
IMDG	UN number	: 3082
	Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (Mancozeb)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Mancozeb)

Not regulated by DOT/49 CFR unless shipped in bulk package or by water.



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**SECTION 15. REGULATORY INFORMATION**

SARA 313 Regulated Chemical(s)	: Mancozeb , Zinc sulfate , Manganese sulphate
Title III hazard classification	: Acute Health Hazard: Yes Chronic Health Hazard: Yes Fire: No Reactivity/Physical hazard: No Pressure: No
EPA Reg. No.	: 352-706 In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.
California Prop. 65	: WARNING! This product contains a chemical known to the State of California to cause cancer. Mancozeb , Ethylene thiourea WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Ethylene thiourea

**SECTION 16. OTHER INFORMATION**

	NFPA	HMIS
Health	1	1
Flammability	1	1
Reactivity/Physical hazard	0	0

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Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668



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