

**DuPont™ Manzate® Pro-Stick™ Fungicide**

Version 2.0

Revision Date 02/02/2011

Ref. 130000036272

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® Pro-Stick™ Fungicide
Tradename/Synonym : Manzate 75DF
Manzate 75WG
Manzate 200DF
Manzate 200WG
Manzate Evolution
Manzate GRDA
Innova Mancozeb 750
DPX-O7331 75WG
Dithane DG 75
Dithane 75 DF Rainshield
DUKAT 75WG
MANSCIENCE 75DF
M70 DF
Mancozeb: (A coordination product of zinc ion and manganese ethylenebisdithiocarbamate)

MSDS Number : 130000036272

Product Use : Fungicide

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!

May irritate eyes, nose, throat or skin. Avoid breathing dust or spray mist. Avoid contact with skin, eyes and clothing.

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This product is toxic to: Fish

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.

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	75 %
Other Ingredients		25 %

SECTION 4. FIRST AID MEASURES

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- 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.
- 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. Do not 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. FIRE-FIGHTING MEASURES

Flammable Properties

- Flash point : not applicable
- Ignition temperature : 205 °C (401 °F)
- Lower explosion limit : 0.29 g/l
- Fire and Explosion Hazard : Hazardous combustion products may include: Sulphur oxides nitrogen oxides
Carbon oxides
- Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
- Unsuitable extinguishing media : High volume water jet, (contamination risk)

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Firefighting Instructions : Wear full protective clothing and self-contained breathing apparatus. (on small fires) 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.

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 : Remove all sources of ignition. Prevent further leakage or spillage. Shovel or sweep up. Scoop into bags or boxes with plastic or aluminium shovel. Never return to container for reuse.

Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas. Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

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 personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Handling (Physical Aspects) : Under severe dusting conditions, this material may form explosive mixtures in air. Keep away from heat and sources of ignition.

Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Never allow product to become wet during storage. This may lead to chemical changes which will reduce the effectiveness of the product and create vapors which may be flammable. Keep container closed when not in use. Store product in original container only, away from other pesticides, fertilizer, food or feed. Keep out of the reach of children.


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Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Ensure adequate ventilation.

Personal protective equipment

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

Protective measures : Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. 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/m ³	TLV-C as Mn
AEL *	(DUPONT)	2 mg/m ³	8 hr. TWA Total dust.
AEL *	(DUPONT)	1 mg/m ³	12 hr. TWA Total dust.

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


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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: dry, free flowing, water dispersible granules, solid
Color	: yellow
Odor	: sulphurous
pH	: 7.0 at 10 g/l
Bulk density	: 640 kg/m ³
Water solubility	: dispersible

SECTION 10. STABILITY AND REACTIVITY

Stability	: Stable at normal temperatures and storage conditions.
Conditions to avoid	: Exposure to moisture.
Incompatibility	: Incompatible with acids.
Hazardous decomposition products	: Decomposes with heat. Hazardous gases or vapors may be released during decomposition. Sulphur compounds, Sulphur oxides, nitrogen oxides (NO _x), Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50	: > 5.4 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	: Causes sensitization., guinea pig

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Repeated dose toxicity :



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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

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


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

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

34 d : NOEC Cyprinodon sp. (minnow) 0.00219 mg/l

21 d : NOEC Daphnia magna (Water flea) 0.0073 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 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 : Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION 14. TRANSPORT INFORMATION

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Mancozeb)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN number	: 3077

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Proper shipping name : Environmentally hazardous substance, solid, 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.

SECTION 15. REGULATORY INFORMATION

SARA 313 Regulated Chemical(s) : Mancozeb

Title III hazard classification : Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire: No
Reactivity/Physical hazard: Yes
Pressure: No

EPA Reg. No. : 352-704
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



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	NFPA	HMIS
Health :	1	2
Flammability :	1	1
Reactivity/Physical hazard :	1	1

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

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