

SAFETY DATA SHEET

Preparation Date May 30, 2015

Revision Date Oct. 20, 2015

1. Identification of the Substance/Preparation and of the Company

Product identifier

Product Description:	Fortuna 75 WDG Fungicide
Other means of identification	UN No UN3077
Synonyms	Not Available
US EPA Registration number	89333-1
Registration Number (Canada)	31858 Pest Control Products Act

Recommended use of the chemical and restrictions on use

Recommended use	Fungicide.
Uses advised against	Use contrary to label directions

Supplier of this Safety Data Sheet

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EMERGENCY PHONE NUMBER (CHEMTREC) 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Skin sensitization	Category 1B
Reproductive Toxicity	Category 2

Label elements

EMERGENCY OVERVIEW:

Fortuna 75 WDG Fungicide is a granular product that is not flammable, combustible, or explosive and has low acute oral and dermal toxicity. Mancozeb may cause sensitization in some individuals after prolonged or repeated exposure.

WARNING

Hazard statements

Harmful in contact with skin
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child



Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood

Do not handle until all safety precautions have been read and understood
Wear cold insulating gloves/face shield/eye protection
Do not get in eyes, on skin, or on clothing
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor if you feel unwell
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
If medical advice is needed, have container and /or booklet label at hand.

Precautionary Statements - Storage

Store out of reach of children and domestic animals

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)

OTHER INFORMATION

- toxic to aquatic life

3. Composition / information on ingredients

Chemical Name	% w/w	CAS No.	Trade secret
Mancozeb	75%	8018-01-7	N
Lignosulfonate dispersants	12 - 17 %	8061-51-6	N
Ethylene thiourea	< 0.061%	96-45-7	N
Other Non-hazardous Inert Ingredients	< 10%		N

4. FIRST AID MEASURES

IF SWALLOWED:

- Call poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person

IF INHALED:

- Move person 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 further treatment advice.

IF IN EYES:

- Hold eye open and rinse slowly and gently with water or 15 to 20 minutes.
- Remove contact lenses, if present, after the first minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.
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If medical advice is needed, have container and /or booklet label at hand.

5. FIRE FIGHTING MEASURES

GENERAL HAZARD: None; Fortuna WDG is not flammable, combustible or explosive.
FLAMMABILITY CLASSIFICATION (29 CFR 1910.1200): Non-flammable solid.

HAZARDOUS COMBUSTION PRODUCTS: carbon disulfide, ethylene thiourea

EXTINGUISHING MEDIA: Any fire extinguishing media (water, foam, dry chemical, CO₂) may be used on nearby fires.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL:

Large spill: Dyke around spill as necessary. If wet, absorb product with a clay-based absorbent. Remove dry product, absorbent and contaminated soil for disposal in accordance with applicable local regulations.

Small spill: Remove contaminated soil and place in containers for disposal in accordance with applicable local regulations.

Avoid contamination of water bodies during cleanup and disposal. Personal protective equipment is **not** needed to cleanup land spills.

SPILLAGE ONTO HARD SURFACES: Limit area of spillage by barricading if necessary. Sweep up or vacuum, and place product into containers for disposal in accordance with applicable local regulations. Clean surface with water. [NOTE: Wood surfaces will not be harmed nor present a future hazard after rinsing and drying.]

SPILLAGE INTO WATER: Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the mancozeb value to a negligible level.

IN ALL CASES

Wear protective equipment as needed (see section 8).

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep out of reach of children. Wear protective gloves/clothing and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Strong oxidizing agents. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines: Nuisance dust. OSHA PEL TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction.

ENGINEERING CONTROLS: Enclosed Cockpits: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)].

Mechanical Flagging Engineering Controls: Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

PERSONAL PROTECTION:

Personal protective equipment

Eye/Face Protection Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear goggles.

Skin protection Wear protective gloves/clothing. Long sleeved clothing. Socks and footwear.

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 exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations 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 programs must comply with 29 CFR 1910.134.

General hygiene considerations

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves

and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid (granular)
Appearance:	Greenish granules
Odor:	Musky / rotten egg
Bulk Density:	36 - 38 lb per cubic foot
Vapor Pressure (mm/Hg):	Negligible @ 20°C
Solubility in Water:	dispersible in water, negligible dissolution in water
Melting Point:	Not applicable
pH @ 20°C:	not soluble in water

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (Conditions to avoid): Stable

INCOMPATIBILITY: Strong acids, strong oxidizing agents, water, quaternary ammonium salts, EBDC sequestering agents

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon disulfide, ethylene thiourea

HAZARDOUS POLYMERIZATION: Will not occur

11. TOXICOLOGICAL INFORMATION

The following information is available for the formulation:

INGESTION:	Oral LD ₅₀ (rat)	>5000 mg/kg
DERMAL:	Dermal LD ₅₀ (rat)	>2000 mg/kg
INHALATION:	Inhalation LC ₅₀ (rat)	5.3 - 7.38 mg / L
SENSITIZATION:	Skin sensitization (guinea pig)	weak sensitizer
IRRITATION:	Primary eye irritation (rat)	slight reversible irritation
	Primary skin irritation (rat)	

CARCINOGENICITY: ETU, a potential microcontaminant is considered to be a probable human carcinogen by EPA, IARC, and NTP. The State of California (Proposition 65) has listed mancozeb and ETU as carcinogenic.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA

General: Mancozeb is minimally toxic to mammals, birds, and aquatic organisms.

Environmental fate: Mancozeb has minimal solubility in water, is not expected to bioconcentrate in aquatic organisms, is rapidly degraded in soil (DT50 1 -20 days), and is slightly mobile in soil.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

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

Refer to product label.

Regulated waste: The microcontaminant ethylene thiourea (ETU):

RCRA U116

Basis for listing: Included in waste streams K123, K124, K125, K126

14. TRANSPORTATION INFORMATION

DOT When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated. When shipped in bulk, by vessel, or internationally use the IMDG shipping description:

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to DOT.

ICAO

UN-No	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s Mancozeb
Hazard class	9
Packing group 3	

IATA

UN-No	3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s Mancozeb
Hazard class	9
Packing group	PG III
ERG Code	9L

IMDG/IMO

Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Mancozeb)
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

TDG When shipped in Canada domestic highway non-bulk this product can be shipped as not regulated as per TDG 4.22 and 1.45.1

Proper shipping name Environmentally hazardous substances, solid, n.o.s (Mancozeb)
 Hazard class 9
 UN-No 3077
 Packing Group 3

PACKAGING

General description : Foil and plastic-lined paper bag or HDPE drum

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION
Ventilation Control PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.
Keep out of Reach of Children. Harmful if inhaled or absorbed through skin. Harmful if swallowed. May irritate eyes, nose, throat and skin.

CANADA: This chemical is a pesticide product registered by Health Canada, PMRA and is subject to certain labeling requirements under the Pest control Products Act.. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word WARNING - POISON, DANGER EYE IRRITANT
PRECAUTIONS KEEP OUT OF REACH OF CHILDREN.
MAY IRRITATE EYES, NOSE, THROAT AND SKIN. MAY BE HARMFUL IF INHALED OR SWALLOWED.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/	Does not comply
ELINCS	Does not comply
ENCS	Does not comply
China	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply
TSCA	Does not comply

OSHA/Cal OSHA: This MDS document meets the requirements of both OSHA (29 CFR 1910.1200 and Cal OSHA (Title 8 CCR 5194 (g)) hazard communication standards. Refer to Sections 2 and 8 for regulatory exposure limits.

CHEMICAL INVENTORY LISTING: Mancozeb appears on several chemical inventory lists (including the EPA TSCA inventory, Canadian DSL, European EINECS, Japanese MITI, Australian and Korean lists) under the CAS No. 8018-01-7

SARA TITLE III DATA

Sections 311 & 312 Hazard Categories

Immediate Health Hazard:	yes
Delayed Health Hazard:	yes
Fire Hazard:	No
Reactive Hazard:	No
Sudden Pressure Release Hazard:	No

Section 302 Extremely Hazardous Substances: None

Section 313 Toxic Chemicals:

Ethylene thiourea CAS 96-45-7 <0.1%
mancozeb CAS 8018-01-7 75%

CERCLA/EHS Reportable Quantities (RQ):

Ethylene thiourea CAS 96-45-7 **RQ** 10 lb **Amount in product** <0.1%
mancozeb CAS 8018-01-7 75% **RQ** 5000 lb **Amount in product** <75 %

RCRA Category: US EPA Hazardous Waste Number U114 (ethylenebisdithiocarbamic acid)

STATE REGULATIONS:

CALIFORNIA (Proposition 65): This product contains trace levels of of a component known to the State of California to cause cancer, birth defects, or reproductive harm: ethylene thiourea CAS 96-45-7). This product contains a substance known to the State of California to cause cancer, mancozeb (CAS 8018-01-7

STATE RIGHT-TO-KNOW, ethylene thiourea: Massachussetts, New Jersey, Pennsylvania, Illinois

CANADA: This chemical is a pesticide product registered by Health Canada, PMRA and is subject to certain labeling requirements under the Pest control Products Act.. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word WARNING - POISON, DANGER EYE IRRITANT

PRECAUTIONS KEEP OUT OF REACH OF CHILDREN.

MAY IRRITATE EYES, NOSE, THROAT AND SKIN. MAY BE HARMFUL IF INHALED OR SWALLOWED.

CEPA - Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Hazardous Products Act Information: CPR Compliance

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification

This product is exempt under WHMIS.

16. OTHER INFORMATION

SDS Status:

Date of this Revision: Oct. 20, 2015

Date of Previous Revision: May 30, 2015

Person Responsible for Preparation: Don O'Shaughnessy, Ph.D., DABT, President DOC Inc.

Reasons for Revision: Integration of Canadian / US information

DISCLAIMER:

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ABBREVIATIONS:

a.i.	-	Active ingredient
ACGIH	-	American Conference of Governmental Industrial Hygienists
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	-	Environmental Protection Agency
FIFRA	-	Federal Insecticide, Fungicide, and Rodenticide Act
IARC	-	International Agency for Research on Cancer
NTP	-	National Toxicology Program
SARA	-	Superfund Amendments and Reauthorization Act
TSCA	-	Toxic Substances Control Act
DOT	-	Department of Transportation
IMDG	-	International Maritime Dangerous Goods
IATA	-	International Air Transport Association

This is the last page of this SDS. There should be 8 pages.