



Safety Data Sheet

Preparation Date 12-Jan-2016

Revision date 23-Jul-2025

Revision Number: 8

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

Identification of the product

Product Description Wingman Fern 75WDG

Other means of identification

Internal SDS code 12-394E

Registration number(s) 70506-269

Recommended use of the chemical and restrictions on use

Recommended use Fungicides.

Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address

UPL NA Inc.

PO Box 12219

Research Triangle Park, NC 27709-12219

Emergency telephone number

Company Phone Number 1-800-438-6071

Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison and Drug Safety (866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

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

| | |
|--|-------------|
| Skin sensitization | Category 1B |
| Carcinogenicity | Category 2 |
| Reproductive Toxicity | Category 1B |
| Specific target organ toxicity (repeated exposure) | Category 2 |

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements

May cause an allergic skin reaction

May damage fertility or the unborn child

Suspected of causing cancer

May cause damage to organs through prolonged or repeated exposure

**Appearance** Granule**Physical state** solid**Odor** Slight Rotten egg-like**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood
 Do not breathe dust/fume/gas/mist/vapors/spray
 Do not eat, drink or smoke when using this product
 Wash face, hands and any exposed skin thoroughly after handling
 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF ON SKIN: Gently wash with plenty of soap and water
 Immediately call a POISON CENTER or doctor/physician
 Remove/Take off immediately all contaminated clothing
 Wash contaminated clothing before reuse
 If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national regulations

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Toxic to aquatic life

3. Composition/information on Ingredients

| Chemical name | CAS No | Weight-% |
|--|-----------|----------|
| Zinc manganese ethylenebis dithiocarbamate | 8018-01-7 | 75 |
| Ethylene thiourea | 96-45-7 | 0-0.5 |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES**Eye contact**

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Remove and wash contaminated clothing before re-use.

Inhalation

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.

Ingestion

Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

Most Important Symptoms and Effects, Both Acute and Delayed**Most Important Symptoms and Effects**

MAY CAUSE ALLERGIC SKIN REACTION.

Indication of Any Immediate Medical Attention and Special Treatment Needed**Notes to physician**

No information available.

5. Fire-fighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media no data available.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products Carbon disulfide, ethylene thiourea (ETU). Sulfur oxides. Nitrogen oxides (NOx). Carbon oxides.

Explosion data**Protective equipment and precautions for firefighters**

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

Avoid contact with skin and eyes. Wear protective gloves/protective clothing and eye/face protection. Wash thoroughly after handling.

Environmental Precautions**Environmental precautions**

Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up**Methods for Clean-Up**

Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling**Handling**

Keep out of reach of children. Avoid contact with skin and eyes. Avoid breathing dust. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing and eye/face protection. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities**Storage**

Keep container tightly closed in a dry and well-ventilated place.

incompatible materials Strong acids. Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines

| Chemical name | ACGIH TLV | OSHA PEL |
|--|-----------|--|
| Zinc manganese ethylenebis dithiocarbamate | | (vacated) Ceiling: 5 mg/m ³ |

Engineering controls

Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. 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.

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

Socks and footwear. 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 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

9.1 Information on basic physical and chemical properties

| | |
|-----------------------|-------------------------------|
| Appearance | Granule |
| Physical state | solid |
| Odor | Slight Rotten egg-like |
| color | Yellow to brown brown-gray |

| Property | VALUES | Remarks/ Method |
|---|----------------------|-----------------|
| pH | 6.9 | None known |
| Melting point/freezing point | 7.9 °C | None known |
| Boiling Point/Range | | None known |
| Flash Point | | None known |
| Evaporation Rate | | None known |
| Flammability (solid, gas) | | None known |
| Specific gravity | | None known |
| Bulk density | 0.63 g/ml | None known |
| Water solubility | | None known |
| Solubility in Other Solvents | Dispersible in water | None known |
| Partition coefficient: n-octanol/water | | None known |
| Autoignition temperature | 159 °C | None known |
| Decomposition temperature | | None known |
| Viscosity | | None known |

9.2 OTHER INFORMATION- NONE**10. Stability and Reactivity****Reactivity**

no data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Protect from water.

incompatible materials

Strong acids. Strong oxidizing agents.

Hazardous decomposition products

Hydrogen sulfide. Ethylenethiourea. Carbon disulfide.

11. Toxicological Information**Information on Likely Routes of Exposure****Product information**

Mancozeb:

Acute oral LD50 (rat) = >5.0 g/kg

Acute dermal LD50 (rabbit) = >2.0 g/kg

Acute Inhalation LC50 (rat) = >5.2 mg/L - 4 hr

Inhalation

May be harmful if inhaled. May cause irritation of respiratory tract.

Eye contact

Irritating to eyes.

Skin contact

Based on available data, the classification criteria are not met. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion

Based on available data, the classification criteria are not met.

Information on Toxicological Effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

Mutagenic effects

no data available.

Carcinogenicity

The information below indicates whether any agency has listed any ingredient as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|------------------------------|-------|---------|------------------------|------|
| Ethylene thiourea 96-45-7 | - | Group 3 | Reasonably Anticipated | X |

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.

Reproductive effects

May damage fertility or the unborn child.

STOT - Single Exposure

no data available.

STOT - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure.

| | |
|-----------------------------|------------------------------|
| Target organ effects | Thyroid, Respiratory System. |
| Aspiration hazard | No information available. |

Numerical Measures of Toxicity - Product information

| | |
|------------------------|---|
| LD50 Oral | > 5 g/kg (rat) |
| LD50 Dermal | > 2 g/kg (rat) |
| LC50 Inhalation | LC50/inhalation/4h/rat = > 5.2 mg/l (rat) |

12. Ecological Information**ecotoxicity**

Mancozeb = Rainbow trout = 0.73 mg/L 96 hr
Fathead minnow 0.57 mg/L 96 hr
Bluegill sunfish = 0.84 mg/L 96 hr
Freshwater algae = 0.43 mg/L 72 hr

Persistence/Degradability

no data available.

Bioaccumulation/ Accumulation

No information available.

Other Adverse Effects

no data available

13. Disposal Considerations**Waste Treatment Methods**

| | |
|------------------------------|---|
| Waste Disposal Method | Pesticide wastes can be 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. Dispose of contents/container in accordance with local regulation. |
|------------------------------|---|

| | |
|-------------------------------|-------------------------|
| Contaminated packaging | Refer to product label. |
|-------------------------------|-------------------------|

14. Transport Information

| | |
|-------------------|---|
| <u>DOT</u> | Not regulated when shipped domestically by highway in non-bulk containers as per 49 CFR 171.4 |
|-------------------|---|

When shipped in bulk, by vessel, or internationally refer to the IMDG shipping description:

| | |
|-------------------|---|
| <u>TDG</u> | When shipped in Canada domestic highway non-bulk this product can be shipped as Not regulated as per TDG 1.45.1 |
|-------------------|---|

| | |
|---|---|
| UN/ID no | UN3077 |
| Proper shipping name | Environmentally hazardous substance, solid, n.o.s. (Mancozeb) |
| Hazard class | 9 |
| Packing group | PG III |
| Marine Pollutant: Y or N [List Ingredient(s) with %] | Marine pollutant. |

| | |
|------------------------------|--|
| IATA | Single or inner packagings less than 5L (liquid) or 5kg net (solids) are excepted from the Dangerous Goods regulations (IATA Special provision A197) |
| UN/ID no | UN3077 |
| Proper shipping name | Environmentally hazardous substances, solid, n.o.s (Mancozeb) |
| Hazard class | 9 |
| Packing group | PG III |
| Description | IMDG - Marine Pollutant |
| IMDG | Single or inner packaging less than 5L (liquid) or 5 kg net (solids) are excepted from the Dangerous Goods regulations (IMDG 2.10.2.7) |
| UN/ID no | UN3077 |
| Proper shipping name | Environmentally hazardous substances, solid, n.o.s (Mancozeb) |
| Hazard class | 9 |
| Packing group | PG III |
| Environmental hazards | IMDG - Marine Pollutant |

15. Regulatory Information

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. May irritate eyes, nose, throat and skin. Harmful if swallowed. Harmful if inhaled or absorbed through skin. Toxic to fish.

International Inventories

| | |
|-----------------|-------------|
| USINV | Not present |
| DSL/NDSL | Not present |
| EINECS/ | Not Present |
| ELINCS | |
| ENCS | Not Present |
| China | Not Present |
| KECL | Not Present |
| PICCS | Not Present |
| AICS | Not Present |
| TSCA | Not Present |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any

chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CERCLA

Not applicable

| Chemical name | RQ | CERCLA EHS RQs | RQ |
|------------------------------|-------|----------------|--|
| Ethylene thiourea 96-45-7 | 10 lb | | RQ 10 lb final RQ RQ 4.54 kg final RQ |

CERCLA

| Component | RQ |
|--|-------|
| Ethylene thiourea 96-45-7 (0-0.5) | 10 lb |

RCRA

| Component | RCRA - D Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|--|------------------------|------------------------|------------------------|
| Ethylene thiourea 96-45-7 (0-0.5) | | | U116 |

Pesticide Information

| Component | FIFRA - Restricted Use | FIFRA - Pesticide Product Other Ingredients | FIFRA - Listing of Pesticide Chemicals | California Pesticides - Restricted Materials |
|--|------------------------|---|--|--|
| Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (75) | | | X | |
| Ethylene thiourea 96-45-7 (0-0.5) | | | X | |

State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

| Component | | California Prop. 65 |
|--|-----------|-----------------------------|
| Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (75) | | Carcinogen |
| Ethylene thiourea 96-45-7 (0-0.5) | | Carcinogen Developmental |
| Chemical name | CAS No | CATEGORY |
| Zinc manganese ethylenebis dithiocarbamate | 8018-01-7 | Carcinogen |
| Ethylene thiourea | 96-45-7 | Carcinogen |

Prop 65 Pictogram**Prop 65 Warning Statement**
California Proposition 65**WARNING**

This product can expose you to chemicals which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

State Right-to-Know

| Chemical name | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------------|---------------|------------|--------------|----------|--------------|
| Ethylene thiourea - 96-45-7 | X | X | X | X | |

International regulations**U.S. EPA Label information**

EPA Pesticide registration number 70506-269

16. Other Information**NFPA**

HEALTH 2

flammability 0

Instability 0

Physical hazard -

Preparation Date

12-Jan-2016

Revision date

23-Jul-2025

Revision Summary

Update section 2 Update section 4 Update section 5 Update section 7 Update Section 9 Update section 10 Update section 11
Update section 15

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End of SDS