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

**Product identifier**
Product Description: PENNCOZEB® 75 DF

**Other means of identification**
- Item#: 12-370
- Synonyms: Not Available
- Registration number(s): 70506-185

**Recommended use of the chemical and restrictions on use**
- **Recommended use**: Fungicide.
- **Uses advised against**: Activities contrary to label recommendation

**Details of the Supplier of the Safety Data Sheet**
- **Supplier Address**: United Phosphorus Inc.
  630 Freedom Business Center
  Suite 402
  King of Prussia, PA 19406
- **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 Control Center
    (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)

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>1</td>
</tr>
<tr>
<td>Acute toxicity - Dermal</td>
<td>1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>1B</td>
</tr>
</tbody>
</table>

**Label elements**

**EMERGENCY OVERVIEW**

**hazard statements**
- FATAL IF SWALLOWED
- Fatal in contact with skin
- May cause an allergic skin reaction
- May damage fertility or the unborn child
Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Wear cold insulating gloves/face shield/eye protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
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: 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
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Causes mild skin irritation
• Very toxic to aquatic life

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc manganese ethylenebis dithiocarbamate</td>
<td>8018-01-7</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Ethylene thiourea</td>
<td>96-45-7</td>
<td>0-0.5</td>
<td></td>
</tr>
<tr>
<td>Sodium disopropyl naphthalene sulfonate</td>
<td>1332-93-6</td>
<td>2.07</td>
<td></td>
</tr>
</tbody>
</table>

If CAS number is “proprietary”, the specific chemical identity and percentage 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 poison control center or doctor for treatment advice.

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 physician or poison control center immediately.

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**

No information available.

**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 information available.

**Specific hazards arising from the chemical**

No information available.

**Hazardous combustion products**

If heated to decomposition (>235 F) flammable ethylene is produced.

**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 the skin and the eyes. Wear protective gloves/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**

Avoid breathing dust. Keep out of reach of children. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment.
Conditions for safe storage, including any incompatibilities

Storage
Keep tightly closed in a dry and cool place. If allowed to become wet the product will deteriorate and represent a fire hazard. Keep containers tightly closed in a cool, well-ventilated place.

incompatible materials

8. Exposure Controls/Personal Protection

Exposure guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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
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

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>VALUES</th>
<th>Remarks/ • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>7.9 °C / 46 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability limit in air</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
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

Hazardous decomposition products
Oxides of carbon and nitrogen.

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
Harmful by inhalation.

Eye contact
Moderately irritating to the eyes.

Skin contact
May be harmful if absorbed through the skin.

Ingestion
MAY BE HARMFUL IF SWALLOWED.

Information on Toxicological Effects

Symptoms
No information available.

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

sensitization
May cause sensitization by skin contact.

Mutagenic effects
No information available.

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea</td>
<td>-</td>
<td>Group 3</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
</tbody>
</table>
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 information available.
STOT - repeated exposure  No information available.
Aspiration hazard  No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral  5.0  g/kg
LD50 Dermal  > 2.0  g/kg
LC50 Inhalation:  LC50/inhalation/4h/rat =  > 5.2  mg/l

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 information available.

Bioaccumulation/ Accumulation
No information available.

Other Adverse Effects
No information available

13. Disposal Considerations

Waste Treatment Methods

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. Dispose of contents/container in accordance with local regulation.

Contaminated packaging  Refer to product label.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea</td>
<td>U116</td>
<td>Included in waste streams: K123, K124, K125, K126</td>
<td>U116</td>
<td></td>
</tr>
</tbody>
</table>

14. Transport 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:

ICAO
Jennifer M. Wood
12-370 PENNCOZEB® 75 DF
Revision date 13-May-2015

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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. Causes moderate eye irritation. Harmful if swallowed. Harmful if inhaled or absorbed through skin. Toxic to fish.

**International Inventories**

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>USINV</td>
<td></td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td></td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td></td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>China</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>TSCA</td>
<td>Does not comply</td>
</tr>
</tbody>
</table>

**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 contains a chemical
or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>SARA 313 - Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea - 96-45-7</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous Categorization**

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>NO</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>RQ</th>
<th>CERCLA EHS RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea</td>
<td>10 lb</td>
<td></td>
<td>RQ 10 lb final RQ RQ 4.54 kg final RQ</td>
</tr>
</tbody>
</table>

**CERCLA**

<table>
<thead>
<tr>
<th>Component</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea</td>
<td>10 lb</td>
</tr>
</tbody>
</table>

**SARA Product RQ**

<table>
<thead>
<tr>
<th>Component</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea</td>
<td>0</td>
</tr>
</tbody>
</table>

**RCRA**

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - P Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene thiourea</td>
<td></td>
<td></td>
<td>U116</td>
</tr>
</tbody>
</table>

**Pesticide Information**

**State Regulations**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>CATEGORY</th>
<th>California Prop. 65</th>
<th>Non-additive, corrosive chemical type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (75)</td>
<td>8018-01-7</td>
<td>Carcinogen</td>
<td>Carcinogen</td>
<td></td>
</tr>
<tr>
<td>Ethylene thiourea 96-45-7 (0-0.5)</td>
<td>96-45-7</td>
<td>Carcinogen</td>
<td>Carcinogen Developmental</td>
<td></td>
</tr>
</tbody>
</table>

**State Right-to-Know**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc manganese ethylenebis dithiocarbamate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Ethylene thiourea</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**International regulations**

**U.S. EPA Label information**

**EPA Pesticide registration number**

<table>
<thead>
<tr>
<th>Year</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>70506-185</td>
</tr>
</tbody>
</table>

**16. Other Information**

**NFPA**

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>flammability</th>
<th>Instability</th>
<th>Physical hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
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</table>

**Preparation Date**

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-May-2015</td>
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</tbody>
</table>

**Revision date**

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-May-2015</td>
</tr>
</tbody>
</table>

**Revision Summary**

Update to GHS format

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End of MSDS