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

Product identifier
Product Description: Phoenix Dovetail

Other means of identification
Item#: 12P-0018
UN-No UN3082
Synonyms Not Available
Registration number(s) 70506-261

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)

Acute toxicity - Dermal Category 4
Acute toxicity - Inhalation (Gases) Category 2
Acute toxicity - Inhalation (Vapors) Category 2
Acute toxicity - Inhalation (Dusts/Mists) Category 4
Skin sensitization Category 1
Germ cell mutagenicity Category 2
Carcinogenicity Category 2

Label elements

EMERGENCY OVERVIEW

DANGER

hazard statements
Harmful in contact with skin
Fatal if inhaled
May cause an allergic skin reaction
Suspected of causing genetic defects
Suspected of causing cancer
Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

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

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Very toxic to aquatic life with long lasting effects
• Very toxic to aquatic life
• May be harmful in contact with skin

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade secret</th>
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<tbody>
<tr>
<td>Thiophanate-methyl</td>
<td>23564-05-8</td>
<td>19.65</td>
<td></td>
</tr>
<tr>
<td>Iprodione</td>
<td>36734-19-7</td>
<td>19.65</td>
<td></td>
</tr>
</tbody>
</table>

*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
Remove and wash contaminated clothing before re-use. Wash off immediately with soap
and plenty of water for at least 15 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. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

**Protection of First-aiders**
Use personal protective equipment.

**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**
Carbon dioxide (CO2). Water. Foam.

**Unsuitable extinguishing media**
No information available.

**Specific hazards arising from the chemical**
Thermal decomposition can lead to release of irritating gases and vapours.

**Hazardous combustion products**
Heat and fire may result in thermal decomposition and the release of hydrogen chloride and oxides of nitrogen, sulfur and carbon.

**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.

**Methods and material for containment and cleaning up**

**Methods for Clean-Up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

---

### 7. Handling and Storage

**Precautions for safe handling**

**Handling**
Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep out
of reach of children. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage
Keep in a dry place. Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children.

Incompatible materials
Strong oxidizing agents.

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.

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

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>
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</tr>
<tr>
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<tr>
<td>color</td>
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<td>Odor</td>
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<tr>
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<td>Boiling Point/Range</td>
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<tr>
<td>Flash Point</td>
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<td>Evaporation Rate</td>
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<td></td>
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<tr>
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</tr>
<tr>
<td>Solubility in Other Solvents</td>
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</tr>
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</table>
10. Stability and Reactivity

Reactivity
no data available

Chemical stability
Stable under normal conditions.
Possibility of hazardous reactions
None under normal processing.
  Hazardous polymerization Hazardous polymerisation does not occur.

Conditions to avoid
No information available.
  incompatible materials
Strong oxidizing agents.
  Hazardous decomposition products
Carbon oxides.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information
Single exposure studies indicate:
Oral: Practically non-toxic to rats (LD50 $>5,000$ mg/kg)
Dermal: No more than slightly toxic to rabbits (LD50 $>2,000$ mg/kg)
Inhalation: Slightly toxic to rats (4 hr LC50 1.8 mg/l)
Skin Irritation: Non-irritating to rabbits
Eye Irritation: Non-irritating to rabbits
Skin allergy was observed in guinea pigs following repeated exposure. Repeated or long-term oral administration produced effects on the thyroid, liver or kidneys in rats, mice and dogs. An increased incidence of liver tumors was observed in mice and thyroid tumors were observed in male rats following long-term oral exposure. No effects were seen on the ability of male or female rats to reproduce when exposed orally for 2 successive generations. No birth defects were observed in the offspring of rats exposed orally during pregnancy. In rabbits, developmental effects were noted only at maternally toxic doses. No genetic changes were observed in tests using animal cells. Polyglycol
Repeated exposure of rats to aerosol of some block polymers produced an inflammatory response and slight fibrosis in the lung. Long-term dietary administration of a block polymer to dogs produced no adverse effects. Some block polymers have produced genetic changes in tests using bacteria or animal cells.
Single exposure studies indicate that this material is practically non-toxic if swallowed (mouse LD50 $>15,000$ mg/kg) or absorbed through skin (rabbit LD50 2,000 mg/kg) moderately toxic if inhaled (rat 4 hr LC50 0.1-0.34 mg/l) and practically non irritating to rabbit eyes (10% aqueous solution).
Inhalation
May be harmful if inhaled.

Eye contact
May cause irritation.

Skin contact
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion
HARMFUL IF SWALLOWED.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
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</thead>
<tbody>
<tr>
<td>Thiophanate-methyl</td>
<td>&gt; 1700 mg/m³ (Rat) 4 h</td>
<td>-</td>
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<tr>
<td>23564-05-8</td>
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<td></td>
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</tr>
<tr>
<td>Iprodione</td>
<td>2981 mg/kg (Rat)</td>
<td>-</td>
<td>&gt; 5.16 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>36734-19-7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 information available.

Carcinogenicity
Iprodione (technical grade) = Produced benign testicular tumors in rats and benign liver and ovary tumors in mice when tested at a maximum tolerated dose.

Information indicates that iprodione is not a primary developmental toxicant. Thiophanate methyl:
Repeated or long term administration produced effects on the thyroid, liver, or kidneys in rats, mice or dogs. An increased evidence of liver tumors was observed in mice and thyroid tumors were observed in male rats following long term oral exposure. No effects were seen on the ability of male or female rats to reproduce when exposed orally for 2 successive generations. No birth defects were observed in the offspring of rats exposed orally during pregnancy. In rabbits, developmental toxic effects were noted at maternally toxic doses. No genetic changes were observed in tests using animal cells.

Reproductive effects
No effects were observed on reproduction when exposed orally to rats, for two successive generations.

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 > 5000 mg/kg (rat)
LD50 Dermal > 2000 mg/kg (rabbit)
LC50 Inhalation: Inhalation LC50 1.8 mg/l (4-hr)

12. Ecological Information

ecotoxicity

Thiophanate methyl methyl
Carp 96 hr LC50 = >100 mg/L
Fiddler crab 96 hr LC50 = >560 mg/L
Bluegill 96 hr LC50 = 15.8 mg/L
Daphnid 48 hr EC50 = 15.6 mg/L
Shrimp 96 hr LC50 = 25.1 mg/L
Trout 96 hr LC50 = 2.2 mg/L
Oyster 96 hr LC50 = 4.6 ppm
Highly toxic to catfish

59.71% of the mixture consists of components(s) of unknown hazards to the aquatic environment

**Persistence/Degradability**
No information available.

**Bioaccumulation/ Accumulation**
Does not bioaccumulate.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Log Pow</th>
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<tbody>
<tr>
<td>Iprodione</td>
<td>3</td>
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<tr>
<td>36734-19-7</td>
<td></td>
</tr>
</tbody>
</table>

**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 rinseate 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.

<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>
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<tbody>
<tr>
<td>Thiophanate-methyl</td>
<td>U409</td>
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</table>

### 14. Transport Information

**DOT**

- **UN-No**: UN3082
- **Proper shipping name**: Environmentally hazardous substance, liquid, n.o.s (Thiophanate methyl)
- **Hazard class**: 9
- **Packing group**: PG III
- **Reportable Quantity (RQ)**: 10 lbs (Thiophanate methyl)

**ICAO**

- **UN-No**: UN3082
- **Proper shipping name**: Environmentally hazardous substance, liquid, n.o.s (Thiophanate methyl)
- **Hazard class**: 9
- **Packing group**: PG III

**IATA**

- **UN-No**: UN3082
- **Proper shipping name**: Environmentally hazardous substances, liquid, n.o.s (Thiophanate methyl)
- **Hazard class**: 9
- **Packing group**: PG III

**IMDG/IMO**

- **UN-No**: UN3082
- **Proper shipping name**: Environmentally hazardous substances, liquid, n.o.s (Thiophanate-methyl)
- **Hazard class**: 9
- **Packing group**: PG III
- **Marine Pollutant**: This product contains a chemical which is listed as a marine pollutant according to
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.

Harmful if swallowed. Causes moderate eye irritation. Keep out of Reach of Children.

**International Inventories**

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
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<tbody>
<tr>
<td>USINV</td>
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<tr>
<td>DSL/NDSL</td>
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<tr>
<td>EINECS/ELINCS</td>
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<tr>
<td>ENCS</td>
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<td>China</td>
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<tr>
<td>KECL</td>
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<td>PICCS</td>
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<td>AICS</td>
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<tr>
<td>TSCA</td>
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**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>
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**SARA 311/312 Hazardous**

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<tbody>
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<tr>
<td>Chronic health</td>
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<tr>
<td>Fire hazard</td>
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<td>Sudden release of pressure hazard</td>
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<td>Reactive Hazard</td>
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<table>
<thead>
<tr>
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**CERCLA**
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<tbody>
<tr>
<td>Thiophanate-methyl</td>
<td>10 lb</td>
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**SARA Product RQ**

**0**

**RCRA**

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<tr>
<th>Component</th>
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**Pesticide Information**

**State Regulations**

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<th>CATEGORY</th>
<th>California Prop. 65</th>
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**State Right-to-Know**

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**International regulations**

**U.S. EPA Label information**

**EPA Pesticide registration number**

70506-261

**16. Other Information**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HEALTH</th>
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<th>Instability</th>
<th>Physical hazard</th>
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**Preparation Date**

04-May-2015

**Revision date**

06-Nov-2015

**Revision Summary**

Correct spelling error(s)

**Disclaimer**

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End of MSDS