PrimeraOne® Chlorthalonil DF Fungicide

Safety Data Sheet
According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 05/26/2015 Date of issue: 05/19/2015 Supersedes Date: 08/29/2012 Version: 2.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier
Product Form: Mixture
Product Name: PrimeraOne® Chlorthalonil DF Fungicide
Synonyms: Chlorthalonil
Other means of identification: Group 3 Fungicide; EPA Reg. No. 60063-3

1.2. Intended Use of the Product
Use of the substance/mixture: Fungicide

1.3. Name, Address, and Telephone of the Responsible Party
Manufacturer
Sipcam Agro USA, Inc.
2525 Meridian Parkway, Suite 350
Durham, NC 27713
T 919-226-1195

1.4. Emergency Telephone Number
Emergency Number: (800) 424-9300 CHEMTREC (transportation and spills) (800) 900-4044 Poison Control Center (human health) (800) 345-4735 ASPCA (animal health)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture
Classification (GHS-US)
Acute Tox. 2 (Inhalation:dust,mist) H330
Eye Dam. 1 H318
Carc. 2 H351
Aquatic Acute 1 H400
Aquatic Chronic 2 H411

2.2. Label Elements
GHS-US Labeling
Hazard Pictograms (GHS-US):

Signal Word (GHS-US): Danger
Hazard Statements (GHS-US):
H318 - Causes serious eye damage.
H330 - Fatal if inhaled.
H351 - Suspected of causing cancer.
H400 - Very toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US):
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust/fume.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective gloves.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF EXPOSED OR CONCERNED: Get medical advice/attention.
P310 - Immediately call a poison center/doctor
P320 - Specific treatment is urgent (see Section 4 on this label).
P391 - Collect spillage.
2.3. Other Hazards
No additional information available

2.4. Unknown Acute Toxicity (GHS-US)
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorothalonil</td>
<td>(CAS No) 1897-45-6</td>
<td>82.5</td>
<td>Acute Tox. 1 (Inhalation:dust,mist), H330</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Carc. 2, H351</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1, H400</td>
</tr>
<tr>
<td>Kaolin Clay</td>
<td>(CAS No) 1332-58-7</td>
<td>&lt;10</td>
<td>Eye, Respiratory Tract, Lung</td>
</tr>
</tbody>
</table>

Full text of H-phrases; see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area.
First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.
First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: Fatal if inhaled. Causes serious eye damage. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
Symptoms/Injuries After Inhalation: inhalation of vapors may cause respiratory irritation.
Symptoms/Injuries After Skin Contact: May cause an allergic reaction in sensitive individuals. May cause skin irritation.
Symptoms/Injuries After Eye Contact: Causes serious eye damage.
Symptoms/Injuries After Ingestion: May be harmful if swallowed.
Chronic Symptoms: May cause cancer.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media
Suitable Extinguishing Media: Alcohol foam, carbon dioxide, dry chemical, water spray, fog. Use extinguishing media appropriate for surrounding fire.

5.2. Special Hazards Arising From the Substance or Mixture
Fire Hazard: Not considered flammable but may burn at high temperatures. Explosion Hazard: Product is not explosive. Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters
Firefighting Instructions: Exercise caution when fighting any chemical fire. Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Other Information: Do not allow run-off from fire fighting to enter drains or water courses. De-contaminate equipment or materials involved in pesticide fires.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).


6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.


6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.


Storage Area: Store locked up.

7.3. Specific End Use(s)

Fungicide

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH</th>
<th>USA OSHA</th>
<th>USA NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV</td>
<td>PEL</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td>2 mg/m³ TWA (respirable)</td>
<td>15 mg/m³ TWA (total); 5 mg/m³ TWA (respirable)</td>
<td>10 mg/m³ TWA (total); 5 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.


Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State:</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance:</td>
<td>Light brown granules</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slightly pungent</td>
</tr>
<tr>
<td>Odor Threshold:</td>
<td>No data available</td>
</tr>
<tr>
<td>pH:</td>
<td>8.8</td>
</tr>
</tbody>
</table>
Evaporation Rate: No data available
Melting Point: No data available
Freezing Point: -5 °C (23.00 °F)
Boiling Point: 100 °C (212.00 °F)
Flash Point: No data available
Auto-ignition Temperature: No data available
Decomposition Temperature: No data available
Flammability (solid, gas): No data available
Vapor Pressure: 5.72 x 10^{-7} torr @25°C
Relative Vapor Density at 20 °C: No data available
Relative Density: No data available
Specific Gravity: No data available
Bulk Density: 0.857 g m/L
Solubility: Water: 0.6 - 0.9 % Dispersible in water
Partition Coefficient: N-octanol/water: No data available
Viscosity: No data available

9.2. Other Information
VOC content: 56 %

SECTION 10: STABILITY AND REACTIVITY
10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
10.2. Chemical Stability: Product is stable.
10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.4. Conditions to Avoid: Direct sunlight. Extremely high or low temperatures.

SECTION 11: TOXICOLOGICAL INFORMATION
11.1. Information On Toxicological Effects
Acute Toxicity: Fatal if inhaled.

PrimeraOne® Chlorthalonil DF Fungicide
ATE (Dust/Mist) 0.05 mg/l/4h

Chlorthalonil (1897-45-6)

<table>
<thead>
<tr>
<th>Test Description</th>
<th>LD50 Oral Rat</th>
<th>LD50 Dermal Rat</th>
<th>LD50 Dermal Rabbit</th>
<th>LC50 Inhalation Rat</th>
<th>ATE (Oral)</th>
<th>ATE (Dermal)</th>
<th>ATE (Vapors)</th>
<th>ATE (Dust/Mist)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3260 mg/kg</td>
<td>2020 mg/kg</td>
<td>10 g/kg</td>
<td>0.1 mg/l/4h</td>
<td>3,260.00 mg/kg body weight</td>
<td>2,020.00 mg/kg body weight</td>
<td>310.00 mg/l/4h</td>
<td>0.05 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation: Not classified
pH: 8.8
Serious Eye Damage/Irritation: Causes serious eye damage.
pH: 8.8
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Suspected of causing cancer.

Chlorthalonil (1897-45-6)

<table>
<thead>
<tr>
<th>IARC group</th>
<th>National Toxicity Program (NTP) Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2B</td>
<td>Evidence of Carcinogenicity.</td>
</tr>
</tbody>
</table>

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Kaolin Clay: Eye, Respiratory Tract, Lungs
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Inhalation of vapors may cause respiratory irritation.
Symptoms/Injuries After Skin Contact: May cause an allergic reaction in sensitive individuals. May cause skin irritation.
Symptoms/Injuries After Eye Contact: Causes serious eye damage.
Symptoms/Injuries After Ingestion: May be harmful if swallowed.
Chronic Symptoms: May cause cancer.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC 50 Fish 2</td>
</tr>
</tbody>
</table>

12.2. Persistence and Degradability

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and Degradability</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative Potential

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative Potential</td>
</tr>
</tbody>
</table>

12.4. Mobility in Soil: No additional information available

12.5. Other Adverse Effects

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Waste portions of this product and contaminated absorbent materials may be disposed of by incineration provided the following conditions are observed:
- Incinerate in a suitable oven fed by a mixture of air and methane, at 1100-1200°C; The HCl which may form in the incinerator exhaust gas must be conveyed into an aqueous absorption system containing 18-20% of Ca(OH)2.
- Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.


SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
</tr>
<tr>
<td>Hazard Class</td>
</tr>
<tr>
<td>Identification Number</td>
</tr>
<tr>
<td>Label Codes</td>
</tr>
<tr>
<td>Packing Group</td>
</tr>
<tr>
<td>ERG Number</td>
</tr>
</tbody>
</table>

14.2. In Accordance with IMDG

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
</tr>
<tr>
<td>Hazard Class</td>
</tr>
<tr>
<td>Identification Number</td>
</tr>
<tr>
<td>Packing Group</td>
</tr>
<tr>
<td>Label Codes</td>
</tr>
<tr>
<td>EmS-No. (Fire)</td>
</tr>
<tr>
<td>EmS-No. (Spillage)</td>
</tr>
</tbody>
</table>

14.3. In Accordance with IATA

<table>
<thead>
<tr>
<th>Chlorothalonil (1897-45-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
</tr>
</tbody>
</table>
PrimeraOne® Chlorthalonil DF Fungicide
Safety Data Sheet
According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Packing Group : III
Identification Number : UN3077
Hazard Class : 9
Label Codes : 9
ERG Code (IATA) : 9L

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

PrimeraOne® Chlorthalonil DF Fungicide
SARA Section 311/312 Hazard Classes
Immediate (acute) health hazard
Delayed (chronic) health hazard

EPA FIFRA Pesticide Product Notice
This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

EPA FIFRA Signal Word
Warning

EPA FIFRA Hazard Statements
May be fatal if inhaled. Causes substantial, but temporary, eye injury. Harmful if absorbed through skin.

EPA FIFRA Precautionary Statements
Do not breathe dust. Remove and wash contaminated clothing before reuse. Do not get in eyes, on skin or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with skin.

Chlorothalonil (1897-45-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on United States SARA Section 313
SARA Section 313 - Emission Reporting 0.1 %

15.2 US State Regulations

Chlorothalonil (1897-45-6)
U.S. - California - Proposition 65 - Carcinogens List
WARNING: This product contains chemicals known to the State of California to cause cancer.

Chlorothalonil (1897-45-6)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/26/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:
- Acute Tox. 1 (Inhalation:dust,mist) Acute toxicity (inhalation:dust,mist) Category 1
- Acute Tox. 2 (Inhalation:dust,mist) Acute toxicity (inhalation:dust,mist) Category 2
- Acute Tox. 4 (Oral) Acute toxicity (oral) Category 4
- Aquatic Acute 1 Hazardous to the aquatic environment - Acute Hazard Category 1
- Aquatic Acute 3 Hazardous to the aquatic environment - Acute Hazard Category 3
- Aquatic Chronic 2 Hazardous to the aquatic environment - Chronic Hazard Category 2
- Carc. 2 Carcinogenicity Category 2
- Comb. Dust Combustible Dust
- Eye Dam. 1 Serious eye damage/eye irritation Category 1
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>H232</td>
<td>May form combustible dust concentrations in air</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)