1. Identification

Product identifier: Orthene® PCO Pellets Insecticide

Other means of identification
- SDS number: 615
- Product registration number: 5481-8973

Recommended use: Organophosphate insecticide.

Recommended restrictions: See product label for restrictions. No other uses are advised. Keep out of the Reach of Children!

EPA Registration number: EPA: 5481-8973

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
- Company name: AMVAC Chemical Corporation
- Address: Suite 1200 4695 MacArthur Court Newport Beach, CA 92660 United States
- Telephone: AMVAC Chemical Corp 949-260-1200 AMVAC Chemical Corp 949-260-6270 (FAX)
- E-mail: CustServ@Amvac-Chemical.com
- Emergency phone number: Medical 888-681-4261 CHEMTREC® (USA+Canada) 800-424-9300 Product Use 888-462-6822 CHEMTREC® (Outside USA) 1+703-527-3887

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Acute toxicity, oral Category 4

Environmental hazards: Hazardous to the aquatic environment, long-term hazard Category 2

OSHA defined hazards: Not classified.

Label elements

Signal word: Warning

Hazard statement: Harmful if swallowed. Toxic to aquatic life with long lasting effects. May be harmful in contact with skin.

Precautionary statement

Prevention: Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response: If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
Collect spillage.

Storage: Store away from incompatible materials.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)

Supplemental information

This 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 in section 15. The pesticide label also includes other important information, including directions for use.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acephate</td>
<td>(O,S-Dimethylacetylphosphoramido thioate)</td>
<td>30560-19-1</td>
<td>97.4</td>
</tr>
<tr>
<td>Other compounds</td>
<td></td>
<td></td>
<td>2.6</td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. If victim is conscious, administer an 8 oz. glass of water containing 2 tbsp. activated charcoal. Have person lie on their left side to slow down absorption of the ingested material.

Most important symptoms/effects, acute and delayed

This product is a Cholinesterase Inhibitor. Preexisting skin or respiratory disorders may be aggravated by exposure to components of this product. Preexisting conditions which lower cholinesterase levels increase vulnerability to cholinesterase depression. These include: (for plasma) chronic alcoholism; malnutrition; dermatomyositis; existing toxicity from exposure to carbon disulfide; benzalkonium salts, organic mercury compounds, ciguatoxins or solanines; and (for RBC) hemolytic anemia. Acute cholinesterase depression may be evidenced by headache, nausea, vomiting, diarrhea, abdominal cramps, excessive sweating, salivation and tearing, constricted pupils, blurred vision, tightness in chest, weakness, muscle twitching and confusion; in extreme cases, unconsciousness, convulsions, severe respiratory depression and death may occur. Product may cause slight but temporary irritation to the eyes and may cause irritation of the skin.

Indication of immediate medical attention and special treatment needed

Treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed. This product is an Organophosphate (OP) Insecticide. Do not handle the patient without the following protective equipment in place: chemical resistant gloves and apron (preferably nitrile). Remove contaminated clothing and do not reuse without thorough cleaning with detergent and hot water. Dispose of heavily contaminated clothing, including shoes, as a hazardous waste. Do not wait for laboratory confirmation to treat patients with strong clinical evidence of poisoning. In the USA and other countries, contact your local or national poison control center for more information. Establish airway and oxygenation. IV Atropine Sulfate should be injected at 10 minutes intervals in doses of 1 to 2 milligrams until complete atropinization has occurred. Pralidoxime chloride (2-PAM chloride) may also be used as an effective antidote in addition to and while maintaining full atropinization. In adults, an initial dose of 1 gram of 2-PAM should be injected, preferably as an infusion, in 250 cc of saline over a 15 to 20 minute period. If this is not practical, 2-PAM may be administered slowly by intravenous injection as a 5% solution in water over not less than 2 minutes. After about an hour, a second dose of 1 gram of 2-PAM will be indicated if muscle weakness has not been relieved. For infants and children, the dose of 2-PAM is 0.25 grams. Avoid morphine, aminophylline, phenothiazine, reserpine, furosemide and ethacrylic acid. Clear chest by postural drainage. Oxygen administration may be necessary. Observe patient continuously for 48 hours. Repeated exposure to cholinesterase inhibitors may without warning cause prolonged susceptibility very small doses of any cholinesterase inhibitor. Allow no further exposure until time for cholinesterase regeneration has been attained as determined by a blood test. Bathe and shampoo contaminated skin and hair. If ingested, empty stomach; activated charcoal is useful to further to further limit absorption. If victim is alert, Syrup of Ipecac (2 tablespoons in adults, 1 tablespoon in small children) is indicated. If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage should be considered following intubation with a cuffed endotracheal tube.
General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. This product is a Cholinesterase Inhibitor. A physician should be contacted in all cases of exposure to the technical and its formulations.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Not available.

Fire fighting equipment/instructions
Use water spray to cool unopened containers.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Shovel up, sweep up or vacuum up the material and place in a container for salvage or disposal. Decontaminate the area and equipment with dilute alkali or ammonia (less than 5%) and detergent.

Environmental precautions
Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits
This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection
Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection
Hand protection
Wear appropriate chemical resistant gloves. Nitrile gloves are recommended (minimum thickness 0.40 mm). Wash when contaminated. Dispose of gloves when contaminated inside, when perforated or when contamination outside cannot be removed. Always wash hands before eating, drinking, smoking or using the toilet.

Other
Long-sleeved shirt and long pants or coveralls, socks and closed toe shoes are required.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
**Wear appropriate thermal protective clothing, when necessary.**

**General hygiene considerations**
Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

### 9. Physical and chemical properties

#### Appearance
White pellet

#### Physical state
Solid.

#### Form
Pellets.

#### Color
White.

#### Odor
Strong cabbage-like odor

#### Odor threshold
Not available.

#### pH
Not available.

#### Melting point/freezing point
188.42 °F (86.9 °C) estimated / 188 °F (87 °C) estimated

#### Initial boiling point and boiling range
Not available.

#### Flash point
Not available.

#### Evaporation rate
Not available.

#### Flammability (solid, gas)
Not available.

#### Upper/lower flammability or explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available</td>
</tr>
</tbody>
</table>

#### Vapor pressure
1.70E-06 mm Hg estimated

#### Vapor density
Not available.

#### Relative density
Not available.

#### Solubility(ies)

<table>
<thead>
<tr>
<th>Solubility (water)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility (water)</td>
<td>Not available</td>
</tr>
</tbody>
</table>

#### Auto-ignition temperature
Not available.

#### Decomposition temperature
Not available.

#### Viscosity
Not available.

#### Other information

<table>
<thead>
<tr>
<th>Bulk density</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk density</td>
<td>27 lb/ft³</td>
</tr>
</tbody>
</table>

#### Explosive properties
Not explosive.

#### Oxidizing properties
Not oxidizing.

### 10. Stability and reactivity

#### Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

#### Chemical stability
Material is stable under normal conditions.

#### Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

#### Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Strong oxidizing agents and alkaline compounds.

#### Incompatible materials
Strong oxidizing agents.

#### Hazardous decomposition products
Emits hazardous fumes and smoke of unknown composition when heated to decomposition or burned.

### 11. Toxicological information

#### Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No adverse effects due to inhalation are expected.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No adverse effects due to skin contact are expected.</td>
</tr>
</tbody>
</table>

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Material name: Orthene® PCO Pellets Insecticide

951    Version #: 1.0    Revision date: Jul-09-2018    Issue date: Jul-09-2018

SDS US 4 / 8
Eye contact
Direct contact with eyes may cause temporary irritation.

Ingestion
Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics
Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity
Harmful if swallowed.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthene® PCO Pellets Insecticide</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Acute**
- **Dermal**
  - LD50: Rabbit > 2000 mg/kg
- **Oral**
  - LD50: Rat 688 mg/kg

**Skin corrosion/irritation**
Prolonged skin contact may cause temporary irritation.

**Irritation**
- **Corrosion - Skin**, Slight Irritant
- **Eye**, Slight Irritant

**Skin corrosion/irritation**
Direct contact with eyes may cause temporary irritation.

**Respiratory or skin sensitization**
- **Respiratory sensitization**: Not a respiratory sensitizer.
- **Skin sensitization**: This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**
Not clasifiable as to carcinogenicity to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**
Not listed.

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**
Not listed.

**Reproductive toxicity**
This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure**
Not classified.

**Specific target organ toxicity - repeated exposure**
Not classified.

**Aspiration hazard**
Not an aspiration hazard.

**12. Ecological information**

**Ecotoxicity**
Toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acephate (O,S-Dimethylacetylphosphoramidothioate) (CAS 30560-19-1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Aquatic**
- **Crustacea**
  - EC50: Water flea (Daphnia magna) > 50 mg/l, 48 hours
- **Fish**
  - LC50: Rainbow trout, donaldson trout (Oncorhynchus mykiss) 2.36 - 3 mg/l, 96 hours

**Persistence and degradability**
No data is available on the degradability of any ingredients in the mixture.

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**
Acephate (O,S-Dimethylacetylphosphoramidothioate) -0.85

**Mobility in soil**
No data available.
Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.
Read safety instructions, SDS and emergency procedures before handling.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

General information
Not regulated by IMDG as a marine pollutant because it does not meet the criteria for listing as a chronic 2 pollutant, which requires a log Kow \( \geq 4 \).

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA. This 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.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Harmful if swallowed.

ENVIRONMENTAL HAZARDS
This pesticide is toxic to birds. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. This product and its degrade are highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.
Material name: Orthene® PCO Pellets Insecticide

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.
SARA 311/312 Hazardous chemical
Yes
Classified hazard categories
Acute toxicity (any route of exposure)

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acephate (O,S-Dimethylacetylphosphoramidothioate)</td>
<td>30560-19-1</td>
<td>97.4</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date: Jul-09-2018
Revision date: Jul-09-2018

References

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
OSHA: Occupational Safety and Health Agency
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

Version #
1.0

HMIS® ratings
Health: 2
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 0
Instability: 0
Disclaimer

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