SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: DRIONE® INSECTICIDE
Chemical Name: Mixture; a.i.’s, pyrethrins, piperonyl butoxide
Synonym: 
MSDS Number: 62
Chemical Family: 
Chemical Formulation: 
EPA Registration No.: 432-992
Canadian Registrat. No.: 

Aventis
95 Chestnut Ridge Road
Montvale, NJ 07645
USA

For Product Use Information: (800)331-2867 Monday through Friday
8:00AM-4:30PM
For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day
For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

Product Use Description: Drione Insecticide is a dust that provides quick control of a variety of insects and kills up to 6 months if left undisturbed. For industrial/commercial use only.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS No.</th>
<th>Concentration % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
</tr>
<tr>
<td>Pyrethrin</td>
<td>8003-34-7</td>
<td>1.0000</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>51-03-6</td>
<td>10.0000</td>
</tr>
<tr>
<td>Amorphous silicon dioxide hydrate (Amorphous silica)</td>
<td>112926-00-8</td>
<td>40.0000</td>
</tr>
<tr>
<td>Other ingredients, including:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoparaffinic Petroleum Solvent</td>
<td>64742-47-8</td>
<td>49.0000</td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview: Causes moderate eye irritation. This product is toxic to fish.

Physical State: solid

Odor: Very mild, tea-like odor.

Appearance: white to yellow

Immediate Effects:
Eye: Causes moderate eye irritation.
Material Safety Data Sheet

DRIONE® INSECTICIDE

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**Skin**
Harmful if absorbed through skin.

**Medical Conditions Aggravated by Exposure**
None known

**Signs and Symptoms**
May cause gastrointestinal effects such as nausea, vomiting and diarrhea. Ingestion of large quantities can result in nervous system effects such as dizziness, loss of coordination, tremors and loss of consciousness. Symptoms usually regress with no long lasting effects.

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**SECTION 4. FIRST AID MEASURES**

**Eye**
Flush eyes with plenty of water. Call a physician if irritation persists.

**Skin**
Wash with plenty of soap and water. Seek medical attention.

**Ingestion**
Drink 1 or 2 glasses of water. Call a physician or Poison Control Center immediately.

**Inhalation**
Remove victim to fresh air. Seek medical attention if breathing difficulties occur.

**Note to Physician**
May pose an aspiration pneumonia hazard.

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**SECTION 5. FIRE FIGHTING MEASURES**

**Flash Point**
88 °C / 190 °F
Test Type: Tag closed cup

**Suitable Extinguishing Media**
carbon dioxide (CO2), dry chemical, foam, water

**Fire Fighting Instructions**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. Keep upwind. Isolate hazard area. Avoid inhalation of smoke and fumes. Use water or foam to reduce fumes. Do not touch spilled material. If possible, move containers from area. Extinguish only if flow can be stopped. Use flooding amounts of water as a fog. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors.

**FLAMMABILITY CLASSIFICATION/RATING:**
NFPA/OSHA Class: IIIA
NFPA Rating (Fire): 2

**Dust Explosion Class**
Not available

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**General and Disposal**
Use proper protective equipment to minimize personal exposure (see Section 8).
Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in compliance with Federal or local disposal regulations. See Section 15 for any applicable Reportable Quantity (RQ) and other federal regulatory information.

Land Spill or Leaks

Small Spill: Sweep up carefully while avoiding the formation of a dust cloud. Place in an approved chemical waste container for disposal. Rinse spill area with small amount of soapy water. Contain and absorb the rinsate with inert absorbents and place into the same disposal container. Area can be washed with water to remove the last trace residue. Do not allow water to contaminate water supplies or sewers.

Large Spill: Eliminate all ignition sources. Stop leak if you can do so without coming into contact with spilled material. All equipment used to clean up spill should be grounded. Prevent entry into waterways, sewers, basements or confined areas. Inform appropriate authorities immediately if contamination occurs. Contact Aventis for further assistance if necessary.

SECTION 7. HANDLING AND STORAGE

Handling Procedures
Avoid contact with skin, eyes and clothing. Containers larger than one pound may not be used in food handling establishments.

Storing Procedures
Do not contaminate water, food, or feed by storage or handling. Store upright at room temperature. Avoid moisture. Containers larger than one pound may not be stored in food handling establishments. Containers one pound and smaller should be stored in original sealed container in a cool, dry place inaccessible to children and pets.

Work/Hygienic Procedures
Wash thoroughly with soap and water after handling.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
Control airborne concentrations below the exposure guidelines. Local exhaust ventilation may be necessary.

Eye/Face Protection
safety glasses splash goggles or face-shield

Body Protection
Chemical-resistant gloves (Neoprene, Nitrile, PVC) other protective clothing to avoid skin contact

Respiratory Protection
Ensure adequate ventilation. If not adequate, use a chemical cartridge-type respirator approved by the National Institute of Occupational Health and Safety.

General Protection
Eye wash facility and safety shower should be available.

Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>Agency</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrethrin</td>
<td>8003-34-7</td>
<td>ACGIH</td>
<td>TWA</td>
</tr>
</tbody>
</table>
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th><strong>Appearance</strong></th>
<th>white to yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>solid</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Very mild, tea-like odor.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>6 - 8 Normally not mixed with water neutral</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor Density (air = 1)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Bulk Density</strong></td>
<td>(SETTLED): 12.2 lb/ft3</td>
</tr>
<tr>
<td></td>
<td>(FLUFFED): 9.2 lb/ft3</td>
</tr>
</tbody>
</table>
**Material Safety Data Sheet**

**DRIONE® INSECTICIDE**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (in water)</td>
<td>insoluble</td>
</tr>
<tr>
<td>Solubility (in Solvent/Oil)</td>
<td>Not available</td>
</tr>
<tr>
<td>Minimum Ignition Energy (mj)</td>
<td>Not available</td>
</tr>
<tr>
<td>Minimum Explosion Conc. (MEC)</td>
<td>Not available</td>
</tr>
<tr>
<td>Other Information</td>
<td>EVAPORATION RATE (BUTYL ACETATE = 1): Not available</td>
</tr>
<tr>
<td></td>
<td>LIMITED OXYGEN CONCENTRATION (LOC): Not available</td>
</tr>
<tr>
<td></td>
<td>PARTICLE SIZE: 3 microns</td>
</tr>
</tbody>
</table>

**SECTION 10. STABILITY AND REACTIVITY**

| Chemical Stability                            | Stable                         |
| Hazardous Polymerization (Conditions to avoid) | Will not occur                 |

**SECTION 11. TOXICOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral Toxicity</td>
<td>The following data was developed with: Drione Insecticide Rat: LD50: &gt; 5,000 mg/kg Practically non-toxic</td>
</tr>
<tr>
<td>Acute Dermal Toxicity</td>
<td>The following data was developed with: Drione Insecticide Rabbit: LD50: &gt; 2,000 mg/kg Slightly toxic.</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity</td>
<td>The following data was developed with: Drione Insecticide Rat: LC50: 2.99 mg/l 4 h Practically non-toxic</td>
</tr>
<tr>
<td>Skin Irritation</td>
<td>The following data was developed with: Drione Insecticide Non-irritating. Primary Irr. Index = 0.1</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>The following data was developed with: Drione Insecticide Rabbit: Slightly irritating.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>The following data was developed with: Drione Insecticide Guinea pig: Non-sensitizing</td>
</tr>
</tbody>
</table>
NOTE: The severity classifications listed above are those of Aventis and, particularly for eye irritation, may not always coincide with EPA-Mandated Precautionary Statements.

THE FOLLOWING DATA WERE DEVELOPED WITH: pyrethrin and piperonyl butoxide, the active ingredients

### Chronic Toxicity

In a recent study, marginally higher incidences of benign thyroid, parathyroid, ovary, and liver tumors were observed in rats and in lungs of mice following lifetime high doses exposures to pyrethrum.

Marginally higher incidences of benign liver tumors in mice were observed in mice following lifetime high dose exposures to piperonyl butoxide.

The significance of these observations is questionable and under review. The doses at which tumors were observed for both pyrethrum and piperonyl butoxide greatly exceeded potential human exposure from labeled uses.

### Assessment Carcinogenicity

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrethrin</td>
<td>8003-34-7</td>
<td>Group A4</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>51-03-6</td>
<td>3</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### Reproductive & Developmental Toxicity

There were no birth defects or adverse effects on reproductive parameters in tests with rats or rabbits for either pyrethrum or piperonyl butoxide. They are not considered to be teratogenic.

### Mutagenicity

Pyrethrum was not found to be genotoxic and did not damage DNA in any study conducted (Ames mutagenicity assay, chromosome aberration in Chinese hamster ovaries (CHO) cells, and in the unscheduled DNA synthesis (UDS) assay in cultured human liver cells.

PBO was not genotoxic in several tests including the Ames mutagenicity assay, chromosome aberration in Chinese hamster ovary (CHO) cells, CHO/HGPRT assay with S9 activation, and in the unscheduled DNA synthesis (UDS) assay in cultured human liver cells.

### SECTION 12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Environmental Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>This product is toxic to fish. Do not apply directly to water. Do not contaminate water when disposing of equipment washwater or rinsate.</td>
</tr>
</tbody>
</table>
SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
Do not contaminate water, food, or feed by disposal.

Pesticide Disposal: Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of at an approved waste disposal facility.

Container Disposal
Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

Container One Pound and Smaller: Do not reuse containers. Wrap container in several layers of newspaper and discard in trash.

RCRA Classification
Not Regulated under this Statute

SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not DOT Regulated

ADDITIONAL SHIPPING PAPER DESCRIPTION
Pyrethrins have a Reportable Quantity of 1 pound. When sold in 40 pound boxes, Drione has a pyrethrin content of 0.4 pound which if spilled does not require reporting, therefore it is not DOT regulated at less than 100 pounds.

If Drione is sold in quantities of 100 pounds or more, then the correct DOT information is:
Environmentally hazardous substance, Solid, n.o.s. (Pyrethrins)
UN 3077, PG III, Class 9
Hazard Label: Class 9
RQ (Pyrethrins)

NOTE: For transport purposes (49 CFR Part 173.132), the calculated 1-Hour LC50 (Rat) is: > 11.96 mg/l.

SECTION 15. REGULATORY INFORMATION

US Federal Regulations
EPA Registration No. 432-992
TSCA list
Piperonyl butoxide 51-03-6
Isoparaffinic Petroleum Solvent 64742-47-8
TSCA 12b export notification None
SARA Title III - section 302 - notification and information
None

SARA Title III - section 313 - toxic chemical release reporting
Piperonyl butoxide 51-03-6 1.0%

US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State right-to-know ingredients
Pyrethrin 8003-34-7 CA, CT, IL, NJ, PA, RI
Piperonyl butoxide 51-03-6 NJ
Amorphous silicon dioxide hydrate 112926-00-8 PA
(Amorphous silica)

Canadian Regulations
Canadian Registrat. No.
Canadian Domestic Substance List
Pyrethrin 8003-34-7
Piperonyl butoxide 51-03-6
Amorphous silicon dioxide hydrate 112926-00-8
(Amorphous silica)
Isoparaffinic Petroleum Solvent 64742-47-8

Environmental
CERCLA
Pyrethrin 8003-34-7 1 lbs

Clean Water Section 307 Priority Pollutants
None

Safe Drinking Water Act Maximum Contaminant Levels
None

International Regulations
EU Classification
None

European Inventory of Existing Commercial Substances (EINECS)
Pyrethrin 8003-34-7
Piperonyl butoxide 51-03-6
Isoparaffinic Petroleum Solvent 64742-47-8
Material Safety Data Sheet

DRIONE® INSECTICIDE

SECTION 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>E</td>
</tr>
<tr>
<td>NFPA</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

REVISED SECTIONS:

MSDS REVISION INDICATOR: Updated Regulatory Information, Additional Exposure Limits in Section 8 and Changes in Section 11, Carcinogenicity Assessment.

Print Date: 07/18/2002
Supersedes MSDS, which is older than: 07/18/2002

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