



# Material Safety Data Sheet

## Pyrenone and Dri-Die Dust Base

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. All necessary and appropriate precautionary, use, and storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Pyrenone and Dri-Die Dust Base  
**MSDS IDENTIFICATION NO.:** ENV-0118  
**ITEM/LIST NUMBER:** 15350  
**CHEMICAL NAME:** Mixture; a.i.'s: pyrethrin, piperonyl butoxide  
**EPA REGISTRATION NUMBER:** 73049-371  
**PRODUCT DESCRIPTION:** This product is to be used only for the formulation of insecticides.

Pyrenone is a registered trademark of Valent BioSciences Corporation.  
Dri-Die is a registered trademark of W.R. Grace Company.

**MANUFACTURER**  
Valent BioSciences Corporation  
870 Technology Way  
Libertyville, IL 60048

**EMERGENCY TELEPHONE NUMBERS**  
HEALTH EMERGENCY OR SPILL (24 hr):  
Within the United States: (877) 315-9819  
Outside the United States: (651) 632-6184

**PRODUCT INFORMATION**  
ENVIRONMENTAL SCIENCE PRODUCTS:  
(866) 822-3731  
[www.valentbiosciences.com](http://www.valentbiosciences.com)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight/ Percent	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Pyrethrin* (8003-34-7)	2	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	See regulated exposure limits
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	20	None	None	See regulated exposure limits
Amorphous silica (63231-67-4)	40	None	None	See regulated exposure limits
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	30-38	None	None	1200 mg/m <sup>3</sup> TWA

\* Active Ingredient

**Emergency Telephone:** In US (877) 315-9819; Outside US (651) 632-6184  
**REVISION NUMBER:** 1

**MSDS NO.:** ENV-0118  
**REVISION DATE:** 08/07/2007

\*\* Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling (877) 315-9819 (within the United States) or (651) 632-6184 (outside the United States) at any time.

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

##### AN OFF-WHITE TO LIGHT BEIGE POWDER

**CAUTION**

- Harmful if absorbed through skin.
- Toxic to fish.
- Keep out of reach of children.

#### POTENTIAL HEALTH EFFECTS

**Acute Toxicity (Primary Routes of Exposure):** Inhalation, eye and skin contact

**Signs and Symptoms of Systemic Effects:** 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.

**Acute Eye Contact:** This product is expected to cause minimal or no eye irritation. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling.

**Acute Skin Contact:** This product is slightly toxic when absorbed through the skin. This product can cause brief and/or minor irritation. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling. This product is not expected to cause allergic skin reactions. This product contains a pyrethroid. Skin contact with pyrethroids can result in a temporary burning, tingling or itching sensation.

**Acute Ingestion:** This product is minimally toxic when ingested.

**Acute Inhalation:** This product is minimally toxic when inhaled.

**Chronic Toxicity (including cancer):** No data available. This product is not listed as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or ACGIH.

**Potentially Aggravated Medical Conditions:** None known

For complete discussion of the toxicology data from which this evaluation was made, refer to Section 11. For Regulatory Information, refer to Section 15.

### 4. FIRST AID MEASURES

**EMERGENCY NUMBER: within the United States (877) 315-9819;  
outside the United States (651) 632-6184**

**EYE CONTACT:**

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 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 a poison control center or doctor for treatment advice.

**INGESTION:**

Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**INHALATION:**

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTES TO PHYSICIAN:**

This product contains a pyrethrin. If a small amount is ingested (or if treatment is delayed) oral administration of large amounts of activated charcoal and a cathartic is probably sufficient therapy.

Do not administer milk, cream or other substance containing vegetable or animal fats, which enhance the absorption of lipophilic substances.

Contains petroleum distillates - vomiting may cause aspiration pneumonia.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 178° F  
**FLASH POINT METHOD:** TCC  
**FLAME EXTENSION:** None  
**AUTOIGNITION:** No data available  
**EXTINGUISHING MEDIA:** Water fog, carbon dioxide, foam, dry chemical

**FLAMMABLE LIMITS IN AIR - LOWER (%):** Not applicable  
**FLAMMABLE LIMITS IN AIR - UPPER (%):** Not applicable

**NFPA RATING:**

Health:	1
Flammability:	2
Reactivity:	0
Special:	None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

**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.

**HAZARDOUS COMBUSTION PRODUCTS:** May form toxic materials: Carbon dioxide, carbon monoxide various hydrocarbons etc.

## 6. ACCIDENTAL RELEASE MEASURES

<b>EMERGENCY TELEPHONE NUMBERS</b> HEALTH EMERGENCY OR SPILL (24 hr): Within the United States: (877) 315-9819 Outside the United States: (651) 632-6184
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**OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION**

Remove all sources of ignition. Ventilate area. Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water.

**GENERAL AND DISPOSAL:** Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the adverse effect of the spill. Ensure that the disposal is in compliance with all Federal, Provincial, and local regulations (See Section 15 for applicable RCRA Number). Refer to Section 15 for applicable Reportable Quantity (RQ) and other regulatory requirements.

**SPILL OR LEAK**

**CONTAINMENT:** Small Spills: Sweep up carefully while avoiding the formation of dust cloud. Place in an approved chemical waste container for disposal. Do not allow spilled material to enter any body of water.

Large Spills: Eliminate all ignition sources. Stop leak if you can do so without coming into contact with spilled material. Dike far ahead of the spill for later disposal. 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.

**CLEANUP:** Sweep (or vacuum) up and dispose of with chemical waste. Avoid creation of dust. Place in an approved chemical waste container for disposal. Rinse spill area with a small amount of soapy water. Contain and absorb the rinsate with inert absorbents and place in the same chemical waste container.

Area can be washed with water to remove the last trace residue. Do not allow water to contaminate water supplies or sewers.

**7. HANDLING AND STORAGE****END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**

**HANDLING PRECAUTIONS:** Avoid breathing dust. Avoid contact with skin, eyes or clothing. Skin contact, especially to the face may result in a tingling sensation and reddening of the skin. Remove contaminated clothing and wash clothing before reuse.

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Store product in original container in a cool, dry area away from children and pets. Do not use or store near heat or open flame.

**WORK/HYGIENIC PRACTICES:** Wash thoroughly with soap and water after handling and before smoking or eating. Remove contaminated clothing and wash clothing before reuse.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**

**EYES:** Do not get this material in your eyes. Eye contact can be avoided by wearing safety glasses or goggles.

**RESPIRATORY PROTECTION:** Ensure good ventilation. If not adequate, use a chemical cartridge-type respirator by the NIOHS.

**SKIN PROTECTION:** Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

**ENGINEERING CONTROLS:** Control airborne concentrations below appropriate exposure guidelines. Use local exhaust ventilation.

**OTHER/GENERAL PROTECTION:** Wash hands, arms and face with soap and water after handling and before eating, drinking or smoking. Avoid breathing dust (or mist). Wash contaminated clothing with soap and water before reuse.

**EXPOSURE LIMITS - See Section 2.**

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>PHYSICAL STATE:</b>	Powdered solid
<b>COLOR:</b>	White to yellow
<b>ODOR:</b>	Mild, tea like
<b>MELTING POINT:</b>	No data available
<b>BOILING POINT:</b>	No data available
<b>BULK DENSITY:</b>	76.7 lb./ft.3
<b>VAPOR PRESSURE:</b>	No data available
<b>pH:</b>	Neutral
<b>CORROSION CHARACTERISTICS:</b>	Not corrosive
<b>SOLUBILITY:</b>	Insoluble in water.

## 10. STABILITY AND REACTIVITY

<b>CHEMICAL STABILITY:</b>	Stable at normal ambient temperatures.
<b>INCOMPATIBILITY:</b>	Oxidizers
<b>OXIDATION/REDUCTION PROPERTIES:</b>	No data available
<b>EXPLODABILITY:</b>	No data available
<b>HAZARDOUS POLYMERIZATION :</b>	Will not occur.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	May form toxic materials such as: Carbon dioxide, carbon monoxide, various hydrocarbons, hydrogen fluoride, etc.

## 11. TOXICOLOGICAL INFORMATION

**ACUTE** (Product Specific Information):

Oral Toxicity LD <sub>50</sub> (rats)	> 5000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD <sub>50</sub> (rabbits)	> 2000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC <sub>50</sub> (rats)	> 2.2 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Slightly irritating	EPA Tox Category	IV
Skin Irritation (rabbits)	Slightly irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

**TOXICITY OF ACTIVE INGREDIENTS:** A statistically significant increase in the number of benign liver tumors appeared in mice fed piperonyl butoxide technical at doses which far exceed any anticipated daily human intake. Independent and industry toxicological experts who have reviewed the data agree that the findings of the study do not indicate a health risk to human beings.

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

Doses at which these effects were observed greatly exceed anticipated human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that this product will result in carcinogenic effects.

**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 tetragenic.

**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 ovary (CHO) cells, CHO/HGPRT assay with S9 activation, and in the unscheduled DNA synthesis (UDS) assay in cultered 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.

**CARCINOGENICITY:** NTP: No IARC: No OSHA: No

## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION:

#### ACUTE AND LONG-TERM TOXICITY TO FISH AND INVERTEBRATES:

This product is toxic to fish.

#### OTHER ENVIRONMENTAL INFORMATION:

Do not discharge effluent containing this product into lakes , streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not contaminate water when disposing of equipment wash waters.

## 13. DISPOSAL CONSIDERATIONS

**END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.**

#### PRODUCT DISPOSAL:

Pesticide, spray mixture or rinse water that cannot be used according to label instructions must be disposed of at or by 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. 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.

#### DISPOSAL METHODS:

Check government regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

## 14. TRANSPORT INFORMATION

<b>DOT (ground) SHIPPING NAME:</b>	Environmentally hazardous substances, solid, n.o.s. (pyrethrins)
<b>DOT REPORTABLE QUANTITY (RQ):</b>	Unknown
<b>UN/NA NUMBER:</b>	UN 3082
<b>HAZARD CLASS:</b>	9
<b>PACKING GROUP:</b>	III
<b>REMARKS:</b>	Marine pollutant when shipped in bulk or non-bulk by water.
<b>EXEMPTION REQUIREMENT:</b>	49 CFR 173.155

## 15. REGULATORY INFORMATION

### 15. REGULATORY INFORMATION

**OTHER U.S. FEDERAL REGULATIONS:**

Chemical Name	RCRA - U Series Wastes	Clean Water Act - Hazardous Substances	Clean Water Act Section 307
Pyrethrin* (8003-34-7)	None	Listed	Not listed
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	None	Not listed	Not listed
Amorphous silica (63231-67-4)	None	Not listed	Not listed
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	None	Not listed	Not listed

**CWA Section 311:** No data

Chemical Name	SARA 313 Chemicals	SARA Section 302	CERCLA Reportable Quantity (RQ):
Pyrethrin* (8003-34-7)	Not listed	Not listed	0.454 kg 1 lb
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	1.0% de minimis concentration	Not listed	None
Amorphous silica (63231-67-4)	Not listed	Not listed	None
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	Not listed	Not listed	None

**SARA (311, 312):**

Immediate Health: Yes  
 Chronic Health: Yes  
 Fire: Yes  
 Sudden Pressure: No  
 Reactivity: No

Chemical Name	IARC - Group 1 (carcinogenic to humans)	IARC - Group 2A (Probably carcinogenic)	IARC - Group 2B (Possibly carcinogenic)	NTP Carcinogen List
Pyrethrin* (8003-34-7)	No	No	No	Not listed
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	No	No	No	Not listed
Amorphous silica (63231-67-4)	No	No	No	Not listed
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	No	No	No	Not listed

**STATE REGULATIONS:**

Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 2 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above.

Chemical Name	California Proposition 65	California - Directors List of Hazardous Substances	NJ Environmental Hazardous Substances List
Pyrethrin* (8003-34-7)	Not listed	Listed	Not listed
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	Not listed	Not listed	Listed
Amorphous silica (63231-67-4)	Not listed	Not listed	Not listed
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	Not listed	Not listed	Not listed

Chemical Name	MI - Critical Materials List	MA Right To Know	NJ Right To Know
Pyrethrin* (8003-34-7)	Not listed	Listed	Listed
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	Not listed	Not listed	Listed
Amorphous silica (63231-67-4)	Not listed	Listed	Not listed
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	Not listed	Not listed	Not listed

Chemical Name	PA Right To Know	RI Right To Know	MN Hazardous Substance
Pyrethrin* (8003-34-7)	Listed	Listed	Listed
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	Not listed	Not listed	Not listed
Amorphous silica (63231-67-4)	Listed	Not listed	Listed
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	Not listed	Not listed	Not listed

**California Proposition 65:** Not listed

#### CHEMICAL INVENTORY INFORMATION:

TSCA Inventory List - Registered pesticide, exempt from TSCA.

Chemical Name	Canada NDSL Inventory List	Canada DSL Inventory List -	EINECS Inventory List -
Pyrethrin* (8003-34-7)	Not listed	Listed	232-319-8
Piperonyl butoxide * (5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole) (51-03-6)	Not listed	Listed	200-076-7
Amorphous silica (63231-67-4)	Not listed	Listed	Not listed
Synthetic Isoparaffinic Hydrocarbon † (64742-47-8)	Not listed	Listed	265-149-8

#### CANADIAN REGULATIONS:

**WHMIS Hazard Class:** Not determined

For information regarding potential adverse health effects from exposure to this product, refer to Sections 3 and 11.

### 16. OTHER INFORMATION

**REASON FOR ISSUE:** Input MSDS into the new system and minor edits throughout.  
**EPA REGISTRATION NUMBER:** 73049-371  
**MSDS NO.:** ENV-0118  
**REVISION NUMBER:** 1  
**REVISION DATE:** 08/07/2007  
**SUPERCEDES DATE:** February 5, 2003

#### DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

THIS INFORMATION IS PROVIDED IN GOOD FAITH BUT WITHOUT EXPRESS OR IMPLIED WARRANTY. BUYER ASSUMES ALL RESPONSIBILITY FOR SAFETY AND USE NOT IN ACCORDANCE WITH LABEL INSTRUCTIONS.

THE INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE TO US AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT VALENT BIOSCIENCES TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS.

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