



**Material Safety Data Sheet**

**DRIONE® INSECTICIDE**

MSDS Number: 102000002537

MSDS Version 2.0

Revision Date: 02/08/2008

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product Name** DRIONE® INSECTICIDE  
**MSDS Number** 102000002537  
**EPA Registration No.** 432-992

Bayer Environmental Science  
 2 T.W. Alexander Drive  
 Research Triangle PK, NC 27709  
 USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
 For Product Information call: 1-800-331-2867

**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Pyrethrins including cinerins	8003-34-7	1.00
Piperonyl butoxide	51-03-6	10.00
Silica, amorphe	7631-86-9	40.00
Distillates (petroleum), hydrotreated light	64742-47-8	

**SECTION 3. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Caution! Harmful if swallowed or absorbed through skin. Moderate eye irritation. Avoid contact with skin, eyes and clothing. Avoid breathing dust.

**Physical State** powder

**Odor** very faint

**Appearance** white to light yellow

**Routes of Exposure** Eye contact, Skin Absorption, Ingestion, Inhalation

**Immediate Effects**

**Eye** Moderate eye irritation. Avoid contact with eyes.

**Skin** Harmful if absorbed through skin. May cause slight irritation. Avoid contact with skin and clothing.



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<b>Ingestion</b>	Harmful if swallowed. Do not take internally. Ingestion of large amounts may be harmful (see Signs and Symptoms).
<b>Inhalation</b>	Avoid breathing dust.
<b>Chronic or Delayed Long-Term</b>	This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects. This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).
<b>Potential Environmental Effect</b>	Toxic to fish.

**SECTION 4. FIRST AID MEASURES**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	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 physician or poison control center immediately.
<b>Skin</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
<b>Inhalation</b>	Move 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.
<b>Notes to Physician Signs and Symptoms</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Ingestion of larger amounts may have impact on the central nervous system (e.g. dizziness, headache).
<b>Hazards</b>	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
<b>Treatment</b>	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.



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**SECTION 5. FIRE FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Carbon dioxide (CO <sub>2</sub> ), Dry chemical, Foam, Water
<b>Fire Fighting Instructions</b>	<p>Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.</p> <p>Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing. In the event of fire and/or explosion do not breathe fumes.</p>

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Remove all sources of ignition. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
<b>Methods for Cleaning Up</b>	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
<b>Additional Advice</b>	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

**SECTION 7. HANDLING AND STORAGE**

<b>Handling Procedures</b>	<p>Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.</p> <p>Take measures to prevent the build up of electrostatic charge.</p>
<b>Storing Procedures</b>	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.
<b>Work/Hygienic Procedures</b>	<p>Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.</p> <p>Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.</p>



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**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection** Eye wash facility and safety shower should be available. Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

**Eye/Face Protection** Tightly fitting safety goggles

**Hand Protection** Chemical resistant nitrile rubber gloves

**Body Protection** Wear long-sleeved shirt and long pants and shoes plus socks.

**Respiratory Protection** When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Exposure Limits**

Pyrethrins including cinerins	8003-34-7	ACGIH	TWA	5 mg/m3
		NIOSH	REL	5 mg/m3
		OSHA Z1	PEL	5 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		US CA OEL	TWA PEL	5 mg/m3
		TX ESL	ST ESL	50 ug/m3
Piperonyl butoxide Silica, amorphe	51-03-6 7631-86-9	OES BCS*		500 ppm
		NIOSH	REL	6 mg/m3

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** white to light yellow

**Physical State** powder

**Odor** very faint

**pH** no data available

**Bulk Density** 12.2 lb/ft<sup>3</sup>



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**Water solubility** insoluble

#### SECTION 10. STABILITY AND REACTIVITY

**Conditions to Avoid** Exposure to moisture.

**Hazardous Reactions** No hazardous reactions when stored and handled according to prescribed instructions.  
Stable under normal conditions.

#### SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredients, pyrethrin and piperonyl butoxide.

**Acute Oral Toxicity** rat: LD50: > 5,000 mg/kg

**Acute Dermal Toxicity** rabbit: LD50: > 2,000 mg/kg

**Acute Inhalation Toxicity** rat: LC50: > 5.4 mg/l  
Exposure time: 4 h  
Determined in the form of dust.

rat: LC50: > 20 mg/l  
Exposure time: 1 h  
Determined in the form of dust.  
Extrapolated from the 4 hr LC50.

**Skin Irritation** rabbit: Slight irritation.

**Eye Irritation** rabbit: Mild eye irritation.

**Sensitization** guinea pig: Non-sensitizing.

**Chronic Toxicity** Pyrethrin caused effects in the liver, lung, thyroid and/or nervous system in chronic studies in mice, rats and dogs.

Piperonyl butoxide caused decreased body weights and/or increased organ weights (liver, kidney, adrenal) in chronic studies in rats and dogs.

#### Assessment Carcinogenicity

Pyrethrin is classified by EPA as "Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential" based on the occurrence of benign liver tumors only in female rats. Therefore, an assessment of cancer risk to humans from potential exposure to pyrethrins is not required.

Piperonyl butoxide gave no evidence of a carcinogenic potential in a lifetime feeding study in rats. In an oncogenicity study in mice, piperonyl butoxide caused an increased incidence of liver tumors. The US EPA has categorized piperonyl butoxide as a group C carcinogen, possible human carcinogen, based on limited



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evidence of cancer in laboratory animals.

**ACGIH**

Pyrethrins including cinerins	8003-34-7	Group A4
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**NTP**

None.

**IARC**

Piperonyl butoxide	51-03-6	Overall evaluation: 3
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Silica, amorphe	7631-86-9	Overall evaluation: 3
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**OSHA**

None.

**Reproductive & Developmental Toxicity**

**REPRODUCTION:**

Pyrethrin was not a reproductive toxicant in a multi-generation rat study.

Piperonyl butoxide was not a reproductive toxicant in a two-generation study in rats.

**DEVELOPMENTAL TOXICITY:**

Pyrethrin was not a developmental toxicant in rats and rabbits.

Piperonyl butoxide did not cause developmental, embryotoxic or teratogenic effects in developmental toxicity studies in rats and rabbits.

**Neurotoxicity**

Pyrethrin caused neurobehavioral effects (e.g., tremors) in rats following acute and repeated oral exposure.

Piperonyl butoxide did not demonstrate the potential to cause neurotoxicity in standard toxicity studies submitted to the Agency. EPA has concluded that there is not a concern for neurotoxicity resulting from exposure to piperonyl butoxide.

**Mutagenicity**

Pyrethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Piperonyl butoxide does not have significant potential for mutagenicity based on sufficient evidence.

**SECTION 12. ECOLOGICAL INFORMATION**

**Environmental Precautions**

Do not allow to get into surface water, drains and ground water. Do not apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.



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**SECTION 13. DISPOSAL CONSIDERATIONS**

**General Disposal Guidance** Do not contaminate water, food, or feed by disposal. Follow container label instructions for disposal of wastes generated during use in compliance with the product label. Never place unused product down any indoor or outdoor drain.

**Container Disposal** Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.

**SECTION 14. TRANSPORT INFORMATION**

TRANSPORTATION CLASSIFICATION:  
 DOT:  
 Package size is less than 100 LBS. It is Not regulated for Domestic Surface Shipment

\* If package size is greater than a 100 LBS. the RQ of Pyrethrins is met. It is regulated as follows:  
 RQ, UN3077, Environmentally Hazardous Substances, Solid, N.O.S.(Pyrethrins), 9, PG III

FREIGHT CLASSIFICATION:  
 Insecticides or Fungicides, N.O.I.; other than poison

**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 432-992

**US Federal Regulations**

**TSCA list**

Piperonyl butoxide	51-03-6
Silica, amorphe	7631-86-9
Distillates (petroleum), hydrotreated light	64742-47-8

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**  
 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**



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Piperonyl butoxide	51-03-6	NJ
Silica, amorphe	7631-86-9	CA, MN

**Canadian Regulations**

**Canadian Domestic Substance List**

Pyrethrins including cinerins	8003-34-7
Piperonyl butoxide	51-03-6
Silica, amorphe	7631-86-9
Distillates (petroleum), hydrotreated light	64742-47-8

**Environmental**

**CERCLA**

Pyrethrins including cinerins	8003-34-7	1 lbs
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**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 2      Reactivity - 0      Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated due to new system and numbering scheme. Updated for general editorial purposes.

Revision Date: 02/08/2008

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