Material Safety Data Sheet

DRIONE® INSECTICIDE

MSDS Number: 102000002537
MSDS Version 2.1
Revision Date: 01/25/2011
Print Date: 01/26/2011

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. 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
Exposure routes	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.
Ingestion	Harmful if swallowed. Do not take internally. Ingestion of large amounts may be harmful (see Signs and Symptoms).
Inhalation	Avoid breathing dust.
Chronic or Delayed Long-Term	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).

Potential Environmental Effect Toxic to fish.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

SECTION 4. FIRST AID MEASURES

General When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye 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.

Skin 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.

Ingestion 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.

Inhalation 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.

Notes to physician

Signs and Symptoms Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Hazards Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Carbon dioxide (CO2), Dry chemical, Foam, Water
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Remove all sources of ignition. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	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.
Additional advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling procedures	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. Take measures to prevent the build up of electrostatic charge.
Storing Procedures	Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.
Work/Hygienic Procedures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. 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.

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
		TX ESL	AN ESL	5 ug/m3
		OES BCS*	TWA	5 mg/m3
		TN OEL	TWA	5 mg/m3
Piperonyl butoxide	51-03-6	OES BCS*	TWA	500 ppm
Silica, amorphe	7631-86-9	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

Bulk density 12.2 lb/ft³

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.

Chemical Stability 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.

Sensitisation 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 evidence of cancer in laboratory animals.

ACGIH		
Pyrethrins including cinerins	8003-34-7	Group A4
NTP		
None.		
IARC		
Piperonyl butoxide	51-03-6	Overall evaluation: 3
Silica, amorphe	7631-86-9	Overall evaluation: 3
OSHA		
None.		

Reproductive 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.

Assessment 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.

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.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14. TRANSPORT INFORMATION

49CFR

UN-Number	**3077**
Class	9
Packaging group	III
Marine pollutant	Marine Pollutant
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (PYRETHRINS)
RQ	Reportable Quantity is reached with 100 lb of product.

IMDG

UN-Number	**3077**
Class	9
Packaging group	III
Marine pollutant	Marine Pollutant
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PYRETHRINS MIXTURE)

IATA

UN-Number	**3077**
Class	9
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PYRETHRINS MIXTURE)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

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

Pyrethrins including cinerins	8003-34-7	CA, CT, IL, MN, PA, RI
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

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

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

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1	Flammability - 2	Physical Hazard - 0	PPE -

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

Reason for Revision: Updated for general editorial purposes. Section 16: Other Information.

Revision Date: 01/25/2011

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.