

**PYRENONE® CROP SPRAY**

MSDS Version 2.1

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	PYRENONE® CROP SPRAY
Chemical Name	Mixture; a.i.'s, pyrethrins and piperonyl butoxide
Synonym	
MSDS Number	158
Chemical Family	
Chemical Formulation	
EPA Registration No.	432-1033
Canadian Registrat. No.	

Bayer Environmental Science
 95 Chestnut Ridge Road
 Montvale, NJ 07645
 USA

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

Product Use Description Pyrenone Crop Spray is an insecticide designed for use on minor crops and as a tank-mixed exciter.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
Pyrethrin	8003-34-7	6.0000	
Piperonyl butoxide	51-03-6	60.0000	
Other ingredients, including:		34.0000	
Isoparaffinic Petroleum Solvent	64742-47-8	> 20.0000	

Material Safety Data Sheet

PYRENONE® CROP SPRAY

MSDS Number: 00000000158

MSDS Version 2.1

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview	Caution. Hazard to humans and domestic animals. Keep out of the reach of children. This product is toxic to fish.
Physical State	liquid
Odor	sweet pyrethrum-like
Appearance	amber to brown
Immediate Effects	
Eye	Avoid contact with eyes. May cause temporary eye irritation.
Skin	Harmful if absorbed through the skin. Avoid contact with skin or clothing. May be a irritating to the skin.
Ingestion	Harmful if swallowed.
Inhalation	Harmful if inhaled. Avoid breathing spray mist.
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. Inhalation may cause nasal and respiratory irritation at high concentrations.

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. Get medical attention.
Ingestion	Call a doctor or get medical attention. Do not induce vomiting. Do not give anything by mouth to an unconscious person.
Inhalation	Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.
Note to Physician	This product contains a pyrethroid and a petroleum solvent. If ingested and vomiting has not occurred, emesis should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.

Material Safety Data Sheet

PYRENONE® CROP SPRAY

MSDS Number: 00000000158

MSDS Version 2.1

Do not administer milk, cream or other substances containing vegetable or animal fats. These only enhance absorption of lipophilic substances.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	71.6 °C / 160.9 °F Method: Tagliabue Closed Cup
Suitable Extinguishing Media	carbon dioxide (CO2), dry chemical, foam, water
Fire Fighting Instructions	<p>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.</p> <p>FLAMMABILITY CLASSIFICATION/RATING: NFPA/OSHA Class: IIIA NFPA Rating (Fire): 2</p>
Dust Explosion Class	Not applicable

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 13 for any applicable Reportable Quantity (RQ) and other federal regulatory information.
Land Spill or Leaks	<p>Small Spill: Absorb with an inert absorbent material such as granular clay, saw dust or pet litter. 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.</p> <p>Large Spill: Eliminate all ignition sources. Stop leak if you can do so without coming into contact with spilled material. Dike far ahead of liquid 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. Contact Bayer for further assistance if necessary.</p>

Material Safety Data Sheet

PYRENONE[®] CROP SPRAY

MSDS Number: 00000000158

MSDS Version 2.1

SECTION 7. HANDLING AND STORAGE

Handling Procedures	<p>Avoid breathing spray mist. Do not get in eyes. Do not get on skin or clothing. Do not use near heat or open flame. Do not use in undiluted form. Consult a veterinarian before using this product on medicated, debilitated, aged, pregnant or nursing animals. Do not use on dogs or cats under 12 weeks.</p> <p>Foods should be removed or covered before treatments. Do not apply as a space spray while food processing is underway.</p>
Storing Procedures	<p>Do not contaminate water, food, or feed by storage or handling. Store upright at room temperature. Avoid exposure to extreme temperatures. Do not use or store near heat or open flame.</p>
Work/Hygienic Procedures	<p>Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.</p> <p>Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Wash contaminated clothing before reuse.</p> <p>Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.</p> <p>Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.</p>

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	<p>When handlers used closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.</p> <p>Control airborne concentrations below the exposure guidelines. Local exhaust ventilation may be necessary.</p>
Eye/Face Protection	<p>safety glasses splash goggles or face-shield</p>
Body Protection	<p>Applicators and other handlers must wear: Long-sleeved shirt and long pants Chemical resistant gloves, such as barrier laminate, or Vitron \geq 14 mils shoes plus socks</p>
Respiratory Protection	<p>Ensure adequate ventilation. If not adequate, use a chemical cartridge-type</p>

Material Safety Data Sheet

PYRENONE® CROP SPRAY

MSDS Number: 00000000158

MSDS Version 2.1

respirator approved by the National Institute of Occupational Health and Safety.

General Protection

Eye wash facility and safety shower should be available.

Exposure Limits

Pyrethrin	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
Isoparaffinic Petroleum Solvent	64742-47-8	ACGIH NIC	TWA	200 mg/m3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	amber to brown
Physical State	liquid
Odor	sweet pyrethrum-like
pH	Not available
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Specific Gravity	Not available
Bulk Density	8.21 lb/gal
Boiling Point	Not available
Melting/Freezing Point	Not available
Solubility (in water)	emulsifiable
Solubility (in Solvent/Oil)	Not available
Minimum Ignition Energy (mj)	Not available
Minimum Explosion Conc. (MEC)	Not available

Material Safety Data Sheet

PYRENONE® CROP SPRAY

MSDS Number: 00000000158

MSDS Version 2.1

Viscosity 20 - 25 cS

Other Information EVAPORATION RATE (BUTYL ACETATE = 1): Not available
LIMITED OXYGEN CONCENTRATION (LOC): Not available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable

Incompatibility strong oxidizers and acids

Hazardous Polymerization (Conditions to avoid) Will not occur

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity Acute Data Developed with: Pyrenone Crop Spray
Male Rat: LD50: 4,500 mg/kg
Slightly toxic.

Acute Data Developed with: Pyrenone Crop Spray
Female Rat: LD50: 4,900 mg/kg
Slightly toxic.

Acute Dermal Toxicity Acute Data Developed with: Pyrenone Crop Spray
Rabbit: LD50: > 2,000 mg/kg
Slightly toxic.

Acute Inhalation Toxicity Acute Data Developed with: Pyrenone Crop Spray
Rat: LC50: > 3.5 mg/l 4 h
Practically non-toxic.

Skin Irritation Acute Data Developed with: Pyrenone Crop Spray
Rabbit: Moderately irritating
Primary Irritation Index = 2.5

Eye Irritation Acute Data Developed with: Pyrenone Crop Spray
Rabbit: Slightly irritating.

Sensitization Acute Data Developed with: Pyrenone Crop Spray
Guinea pig: Non-sensitizing

NOTE: The severity classifications listed above are those of Bayer 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

Material Safety Data Sheet

MSDS Number: 00000000158

PYRENONE® CROP SPRAY

MSDS Version 2.1

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

ACGIH

Pyrethrin

8003-34-7

Group A4

NTP

None

IARC

Piperonyl butoxide

51-03-6

3

OSHA

None

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) and in the unscheduled DNA synthesis (UDS) assay in cultured human liver cells).

Piperonyl butoxide 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

Environmental Precautions

This product is toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply directly to water, except as indicated in the Directions For Use on the label.

Material Safety Data Sheet

PYRENONE[®] CROP SPRAY

MSDS Number: 00000000158
MSDS Version 2.1

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

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Container One Gallon 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: Environmentally Hazardous Substance, n.o.s. (Pyrethrins)

HAZARD CLASS: 9, PG III

DOT IDENTIFICATION NUMBER: UN3082

DOT SHIPPING LABEL: Class 9

ADDITIONAL SHIPPING PAPER DESCRIPTION

RQ (Pyrethrins)

For quantities less than 2 gallons: Not DOT Regulated

NOTE: For transport purposes (49 CFR Part 173.132), thecalculated 1-Hour LC50 (Rat) is: 14 mg/l.

SECTION 15. REGULATORY INFORMATION

US Federal

EPA Registration No.

432-1033

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

Material Safety Data Sheet

MSDS Number: 00000000158
MSDS Version 2.1

PYRENONE® CROP SPRAY

Piperonyl butoxide 51-03-6 1.0%
US States Regulatory
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, MN, NJ, PA, RI
Piperonyl butoxide	51-03-6	NJ

Canadian Regulations

Canadian Registrat. No.

Canadian Domestic Substance List

Pyrethrin	8003-34-7
Piperonyl butoxide	51-03-6
Isoparaffinic Petroleum Solvent	64742-47-8

Environmental

CERCLA

Pyrethrin	8003-34-7	1 lbs
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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

PYRENONE® CROP SPRAY

MSDS Number: 00000000158

MSDS Version 2.1

SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	1	2	0	C
NFPA	1	2	0	

REVISED SECTIONS:

MSDS REVISION INDICATOR: Company Name change.

Print Date: 12/09/2002

Supersedes MSDS, which is older than: 12/09/2002

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