

Material Safety Data Sheet



Pyrenone (5.0 – 0.5%) EC Insecticide

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to 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 Pest Management Regulatory Agency under the authority of the Pest Control Products Act (PCP) through the product labeling. All necessary and appropriate precautionary, use, 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 Pest Management Regulatory Agency-approved label.

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Pyrenone (5.0 – 0.5%) EC Insecticide
REGISTRATION NUMBER: 21314 Pest Control Products Act
MSDS IDENTIFICATION CODE/NO.: ENV-0108
CHEMICAL NAME: Mixture; a.i.'s, pyrethrins, piperonyl butoxide
PRODUCT DESCRIPTION: For use in manufacturing and formulation only.
To be used only in the manufacturer of a product which is registered under the PEST CONTROL PRODUCTS ACT.

Pyrenone is a registered trademark of Bayer AG.

MANUFACTURER

Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048

EMERGENCY TELEPHONE NUMBERS

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

PRODUCT INFORMATION
ENVIRONMENTAL SCIENCE PRODUCTS:
(866) 822-3731
www.valentbiosciences.com

EMERGENCY TELEPHONE #: Within the United States (877) 315-9819
Outside the United States (651) 632-6184

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SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name (CAS #) [Chemical Name]	Weight Percent	Exposure Limit	Ref.
Pyrethrins (8003-34-7) * Natural pyrethrin	= 0.5	5 mg/m ³	OSHA PEL-TWA ACGIH TLV-TWA
Piperonyl butoxide (51-03-6) * 5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole	= 5.0	None established	
Inert Ingredients Containing: **	= 94.5		
Synthetic Isoparaffinic Hydrocarbon (64742-47-8)	< 85.0	1200 mg/m ³	Manufactures recommended TWA
Polyoxyethylene sorbitol tetraoleate (61723-83-9)	< 15.0	None established	

* Active Ingredient

** 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.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

LIGHT YELLOW LIQUID

CAUTION:

- HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN
- TOXIC TO FISH

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure): Inhalation, ingestion, 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.

Eye: Non-irritating

Skin: Harmful if absorbed and transient irritation.
Prolonged or repeated contact may result in contact dermatitis, which is characterized by dryness, chapping and reddening.

Ingestion: Harmful if swallowed
Ingestions of small quantities are usually non-fatal unless aspiration occurs. If aspiration occurs during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death

Inhalation: Harmful if inhaled
Harmful or fatal if inhaled in excess.

SECTION 4: FIRST AID MEASURES**EMERGENCY NUMBER**

Within the United States (877) 315-9819

Outside the United States (651) 632-6184

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

EYES: Flush with clean water for 15 minutes. If irritation persists, seek medical attention.

SKIN: Remove contaminated clothing. Wash skin with plenty of soap and water. Seek medical attention if irritation persists. Launder contaminated clothing before reuse.

INGESTION: Obtain medical attention or contact a Poison Control Centre IMMEDIATELY. Do NOT induce vomiting. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

INHALATION: Remove victim to fresh air. Apply artificial respiration if indicated, by mouth-to-mouth. Obtain medical attention if necessary.

NOTES TO PHYSICIAN: Contains petroleum distillate – vomiting may cause aspiration pneumonia.

HINTS FOR THE PHYSICIAN: This product contains a Pyrethroid. 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 substances containing vegetable or animal fats, which enhance the absorption of lipophilic substances.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: 172°F (77.7°C) **METHOD:** TCC

AUTOIGNITION: NA

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, or Water

FLAMMABLE LIMITS (% by volume in air): Lower: NA Upper: NA

FIRE AND EXPLOSION HAZARDS: Combustible. Do not use or store near heat or open flame.

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 and carbon monoxide, various hydrocarbons, etc.

SECTION 6: ACCIDENTAL RELEASE MEASURES

EMERGENCY PHONE NUMBER: Within the United States (877) 315-9819
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OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Remove all sources of ignition if safe to do so.

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 13 for applicable RCRA Number). Refer to Section 15 for applicable Reportable Quantity (RQ) and other regulatory requirements.

SPILL OR LEAK**CONTAINMENT:**

Small Spills: Soak up liquid with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. and dispose of in trash. Place in an approved chemical waste container for disposal. Where possible drum should be oriented to prevent further leakage. Drum should be placed in a spillage drum for further movement or transport. Do not allow spill 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 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.

CLEANUP:

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.

SECTION 7: HANDLING AND STORAGE**HANDLING PRECAUTIONS:**

KEEP OUT OF REACH OF UNAUTHORIZED PERSONNEL. Harmful if swallowed. Do not breathe vapours. Avoid contact with eyes skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Do not use near heat or open flame.

STORAGE PRECAUTIONS:

Keep in original container during storage. Store product in a cool, dry, well-ventilated place, away from seed, feed, fertilizer, or other pesticides. Keep away from fire or open flame, or other sources of heat.

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

RESPIRATION/VENTILATION: Use in a well ventilated area. If not adequate, use a chemical cartridge-type respirator approved by the National Institute of Occupational Health and Safety.

EYE PROTECTION: Safety glasses or goggles.

SKIN PROTECTION: Use of butyl or nitrile rubber gloves.

BODY PROTECTION: Clothing (disposable or washable) to minimize skin contact.

OTHER/GENERAL PROTECTION: Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse. Eye wash facility and safety shower should be available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Thin, light yellow
ODOR:	Slight
PHYSICAL STATE:	Liquid
SOLUBILITY (H₂O):	Emulsifiable
pH:	NA
DENSITY:	6.77 lb/gal @ 25°C
SPECIFIC GRAVITY:	0.813
VISCOSITY:	6.4 cps @ 25°C

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SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: Excessive heat and sources of ignition.

INCOMPATIBILITY: Strong oxidizing agents and acids.

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

OXIDATION/REDUCTION PROPERTIES: Product does not have the potential to act as a strong oxidizing or reducing agent.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE (Product Specific Information): No acute toxicity data is available for this formulation. Acute toxicity has been completed on a similar formulation EPA Reg. No. 73049-274, containing 0.5 % Pyrethrins and 5.0 % Piperonyl Butoxide.

Oral Toxicity LD₅₀ (rat):	> 5,000 mg/kg	IV EPA Tox Category
Dermal Toxicity LD₅₀ (rabbit):	> 2,000 mg/kg	III EPA Tox Category
Inhalation Toxicity LC₅₀(rat):	> 0.5 mg/L	III EPA Tox Category
Eye Irritation (rabbit):	Non-irritating	IV EPA Tox Category
Skin Irritation (rabbit):	Mildly irritating	IV EPA Tox Category
Skin Sensitization (guinea pig):	Non-sensitizer	

TOXICITY OF ACTIVE INGREDIENTS: PYRETHRINS, PIPERONYL BUTOXIDE:

CHRONIC/CARCINOGENICITY: 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 dose 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. 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.

TERATOGENICTY (BIRTH DEFECTS)

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

MUTAGENICITY (GENETIC EFFECTS)

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 (UNS) 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.

CARCINOGENICITY: NTP: No IARC: No OSHA: No

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ACUTE AND LONG-TERM TOXICITY TO FISH AND INVERTEBRATES:

This product is highly toxic to fish. Keep out of lakes, streams or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.

OTHER ENVIRONMENTAL INFORMATION: Do not contaminate water when disposing of equipment wash waters. 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 Pollutant Discharge Elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority.

SECTION 13: DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL: Canadian formulators of this product should dispose of unwanted active ingredient and containers in accordance with municipal or provincial regulations. For additional details and information on clean up of spills, contact the provincial regulatory agency or the manufacturer.

CONTAINER DISPOSAL:

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

RCRA INFORMATION

RCRA HAZARDOUS WASTE INGREDIENTS: None

SECTION 14: TRANSPORT INFORMATION

D.O.T. PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, n.o.s. (Pyrethrins), Class 9, UN 3082, PG III, RQ

RQ: Pyrethrins

D.O.T. HAZARD CLASS: 9

U.N./N.A. NUMBER: 3082

REMARKS: NA

EXEMPTION REQUIREMENT: NA

NOTE: The RQ notation is not required for a net quantity of Pyrethrins is one pound or less.

SECTION 15: REGULATORY INFORMATION

REGULATIONS UNDER PCP Act: All pesticides are governed under Pest Control Products Act (PCP). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

REGISTRATION NUMBER: 21314 Pest Control Products Act

OTHER U.S. FEDERAL REGULATIONS:

TSCA Inventory: Registered Pesticide, exempt from TSCA.

SARA TITLE III:

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

CAS NUMBER	INGREDIENT NAME	PERCENT BY WEIGHT
51-03-6	Piperonyl butoxide	= 5.0

SARA Title III:

Acute Health Hazard - Yes
 Chronic Health Hazard - No
 Fire Hazard - No
 Sudden Release of Pressure - No
 Reactivity Hazard - No

This information must be included on all MSDSs that are copied and distributed for this material.

REGULATED INGREDIENTS

INGREDIENT: Pyrethrin

CAS NUMBER: 8003-34-7

PERCENT BY WEIGHT: = 0.5

Regulations: Canadian Domestic Substance List (DSL)
 CERCLA Hazardous substance
 SARA EHS 304 Reportable Quantity
 State right-to-know: CT, FL, IL, MA, NJ, NY, PA, RI

INGREDIENT: Piperonyl butoxide

CAS NUMBER: 51-03-6

PERCENT BY WEIGHT: = 5.0

Regulations: Canadian Domestic Substance List (DSL)
 European Inventory of Existing Commercial Substances (EINECS)
 State right-to-know: NJ

INGREDIENT: Aliphatic Petroleum Distillates

CAS NUMBER: 64742-47-8

PERCENT BY WEIGHT: < 85

Regulations: Canadian Domestic Substance List (DSL)
 European Inventory of Existing Commercial Substances (EINECS)

INGREDIENT: Polyoxyethylene sorbitol tetraoleate

CAS NUMBER: 61723-83-9

PERCENT BY WEIGHT: < 15

Regulations: Canadian Domestic Substance List (DSL)

European Inventory of Existing Commercial Substances (EINECS)

California Proposition 65: WARNING. This product contains a chemical know to the State of California to cause cancer and birth defects or other reproductive harm.

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

HMIS HAZARD RATING - HEALTH: 1 Slight
- FIRE: 2 Moderate
- REACTIVITY: 0 Negligible
- PROTECTION: A

NFPA HAZARD RATING - HEALTH: 1 Slight
- FIRE: 2 Moderate
- REACTIVITY: 0 Negligible
- SPECIAL: -

RATINGS:

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4).

These values are obtained using professional judgment. Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with the information contained in the product MSDS.

* RQ: Reportable Quantity

** RCRA waste codes must be determined on a case-by-case basis (i.e., spill, processing waste, etc.).

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

SECTION 16: OTHER INFORMATION

REASON FOR ISSUE: New MSDS
REVISION NUMBER: 0
REVISION DATE: 9/29/04
SUPERSEDES DATE: NA
REGISTRATION NUMBER: 21314 Pest Control Products Act
MSDS NUMBER: ENV-0108

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 CORPORATION TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS.

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