



Material Safety Data Sheet

PYRENONE® 25-5 PUBLIC HEALTH INSECTICIDE

MSDS Number: 102000004841

MSDS Version 3.1

Revision Date: 07/09/2010

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name PYRENONE® 25-5 PUBLIC HEALTH INSECTICIDE
MSDS Number 102000004841
EPA Registration No. 432-1050

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 by inhalation and if swallowed. Avoid breathing spray mist.
Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water
after handling. Keep away from domestic animals.

Physical State liquid
Odor mild
Appearance amber
Exposure routes Ingestion, Inhalation, Eye contact, Skin contact

Immediate Effects
Eye May cause slight irritation. Avoid contact with eyes.
Skin May cause slight irritation. Avoid contact with skin and clothing.
Ingestion Harmful if swallowed. Do not take internally.
Inhalation Harmful if inhaled. Avoid breathing spray mist.

Chronic or Delayed Long-Term This product contains ingredients that are considered to be probable or
suspected human carcinogens (see Section 11 - Chronic). This product or its
components may have target organ effects. This product or its components may
have long term (chronic) health effects.

Potential Environmental Effect Highly toxic to fish.



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Pyrethrins including cinerins	8003-34-7	5.00
Piperonyl butoxide	51-03-6	25.00
Distillates (petroleum), hydrotreated light	64742-47-8	15.00

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. 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. If large amounts are ingested, the following symptoms may occur: Dizziness Lack of coordination Tremors Unconsciousness
Hazards	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
Treatment	Treat symptomatically. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	137.8 °C / 280.0 °F Test type: Tag closed cup
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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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. 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 Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Storing Procedures Store in original container and out of the reach of children, preferably in a locked storage area. 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.

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 Follow all label instructions. Train employees in safe use of the product.



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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
		OES BCS*	TWA	500 ppm
Piperonyl butoxide	51-03-6			

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** amber
- Physical State** liquid
- Odor** mild
- Density** ca. 0.881 g/cm³ at 20 °C
- Water solubility** insoluble

SECTION 10. STABILITY AND REACTIVITY

- Conditions to avoid** Heat, flames and sparks.
- Incompatibility** Strong oxidizing agents



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Chemical Stability Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies have not been performed on this formulation. Acute data provided is from a similar formulation containing 3.93 and 32.26% of the active ingredients, pyrethrin and piperonyl butoxide, respectively. The non-acute information pertains to the technical-grade active ingredients.

Acute oral toxicity male/female combined rat: LD50: > 5,000 mg/kg

Acute dermal toxicity male/female combined rabbit: LD50: > 5,000 mg/kg

Acute inhalation toxicity male/female combined rat: LC50: > 4.9 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.

male/female combined rat: LC50: > 19.6 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.

Skin irritation rabbit: slight irritation

Eye irritation rabbit: slight irritation

Sensitisation guinea pig: Sensitising

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



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Piperonyl butoxide
OSHA
None.

51-03-6

Overall evaluation: 3

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.

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 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. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Apply this product as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Do not re-use empty containers. Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.



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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 **3082**
Class 9
Packaging group III
Marine pollutant Marine Pollutant
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (PYRETHRINS)
RQ Reportable Quantity is reached with 20 lb of product.

IMDG

UN-Number **3082**
Class 9
Packaging group III
Marine pollutant Marine Pollutant
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PYRETHRINS SOLUTION)

IATA

UN-Number **3082**
Class 9
Packaging group III
Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PYRETHRINS SOLUTION)

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. 432-1050

US Federal Regulations

TSCA list

Piperonyl butoxide 51-03-6
Distillates (petroleum), hydrotreated light 64742-47-8

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

None.



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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%
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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

Canadian Regulations

Canadian Domestic Substance List

Pyrethrins including cinerins	8003-34-7
Piperonyl butoxide	51-03-6
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.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Pyrethrins including cinerins	8003-34-7
Distillates (petroleum), hydrotreated light	64742-47-8

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

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

Reason for Revision: Updated for general editorial purposes.

Revision Date: 07/09/2010

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