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Prentox®

# Pyronyl™ Crop Spray

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **Prentox® Pyronyl™ Crop Spray**
**DESCRIPTION:** Insecticide mixture
EPA Reg. Number: 655-489
EPA Signal Word: CAUTION

**COMPANY IDENTIFICATION:**
Envincio LLC
501 Cascade Pointe Lane, Suite 103
Cary, NC 27513
www.envincio.com

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| ACTIVE INGREDIENTS | CAS NO. | % COMPOSITION |
|---|---|---|
| Pyrethrins | 8003-34-7 | 6.0 |
| Piperonyl Butoxide Technical | 51-03-6 | 60.0 |

| Material | OSHA PEL | ACGIH TLV | NTP/IARC/OSHA Other | Carcinogen |
|---|---|---|---|---|
| Pyrethrins | Not Est. | 5 mg/m$^3$ TWA | Not Est. | No |
| Piperonyl Butoxide Technical | Not Est. | Not Est. | Not Est. | No |
| Emulsifier (CAS# - Supplier confidential) | Not Est. | Not Est. | Not Est. | No |
| Petroleum solvent (CAS # 64742-47-8) | | | TWA 300 ppm* | |

*Supplier recommendation

## 3. HAZARD IDENTIFICATION

**SYSTEMS OF ACUTE EXPOSURE**

**INGESTION:** May cause gastrointestinal effects, such as nausea, cramps, 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. At high oral doses, the type of solvent in this product has caused irreversible damage to the liver and kidney (male only) in rats. These effects are not relevant to humans at occupational levels of exposure.

**EYES:** May cause temporary eye irritation.

**SKIN:** May be irritating to skin. Repeated contact may cause dermatitis.

**INHALATION:** May cause nasal and respiratory irritation at high concentrations.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** None known

## 4. FIRST AID

**INGESTION: Do not induce vomiting.** This product contains a petroleum solvent. Vomiting may cause aspiration pneumonia. Call a physician or Poison Control Center immediately.

**INHALATION:** Remove victim to fresh air. Administer artificial respiration if necessary.

**EYE CONTACT:** Flush eyes with plenty of water for 15 minutes. Call a physician if irritation persists.

**SKIN CONTACT:** Remove contaminated clothing and wash affected areas with soap and water. Contact a physician if irritation persists.

## 5. FIRE-FIGHTING MEASURES

**FIRE AND EXPLOSION**

**FLASH POINT (Method Used):** 154° F (closed cup)

**FLAMMABLE LIMITS:** LEL: 0.6 UEL: 7.0 (solvent)

**UNUSUAL FIRE, EXPLOSION AND REACTIVITY HAZARDS:** Combustible liquid. Keep containers cool to avoid explosive ignition.

**IN CASE OF FIRE:** Use CO2, foam, dry chemical, or sand extinguishing media. Do not inhale smoke or vapors. Use self-contained breathing apparatus and wear full protective clothing. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. This product is toxic to fish, birds and other wildlife, prevent spread of contaminated runoff.

**NFPA HAZARD RATINGS:**

| | |
|---|---|
| Health | 1 |
| Flammability | 2 |
| Reactivity | 0 |

## 6. ACCIDENTAL RELEASE MEASURES

Wear chemical safety glasses with side shields or chemical goggles, chemical resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber or viton®, shoes and socks, long-sleeved shirt and long pants to prevent contact with the product or its vapors. Cover the spilled area with generous amounts of absorbent material, such as clay, diatomaceous earth, sand or sawdust. Sweep the contaminated absorbent onto a shovel and put the sweepings into a salvage drum. Wash the spill area with water containing a strong detergent, absorb the rinsate, sweep up and put into salvage drum. Dispose of wastes as below.

**WASTE DISPOSAL METHOD:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. This product is toxic to fish, birds and other wildlife. Do not contaminate the environment through improper disposal.

## 7. HANDLING AND STORAGE

Do not use or store near heat or open flame. Exposure to temperatures above 130° F may cause bursting of containers. Store in a well ventilated, secure area, out of reach of children, domestic animals. Do not contaminate water, food or feed by storage or disposal. Periodically inspect stored materials. Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**INGESTION:** Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

**EYE CONTACT:** To avoid eye contact, wear safety glasses with side shields or chemical goggles.

**SKIN CONTACT:** To avoid skin contact, wear chemical resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber or viton®, shoes and socks, long-sleeved shirt and long pants.

**INHALATION:** To avoid breathing vapors or mist, wear a NIOSH approved chemical cartridge respirator with organic vapor cartridges and a pesticide pre-filter, or a supplied air respirator.

## 9. PHYSICAL DATA

**APPEARANCE:** Yellow to amber liquid
**ODOR:** Pleasant woody odor
**MELTING POINT:** N/A
**BOILING POINT:** N/D
**SPECIFIC GRAVITY ($H_20$=1):** 0.9930
**pH:** N/A
**SOLUBILITY IN WATER:** Emulsifies
**VAPOR PRESSURE:** N/D

## 10. STABILITY AND REACTIVITY

**REACTIVITY:**
**Stability:** Stable
**Hazardous Polymerization:** Will not occur
**Conditions to avoid:** Flame, heat, ignition sources, strong acids and alkalies.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known

## 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY/IRRITATION STUDIES**

**PYRETHRINS (58%):**

**ACUTE ORAL TOXICITY:**
Slightly toxic
Oral $LD_{50}$ (rat): 2,370 mg/kg (58% pyrethrins)

**ACUTE DERMAL TOXICITY:**
Slightly toxic
Dermal $LD_{50}$ (rabbit): >2,000 mg/kg (58% pyrethrins)

**ACUTE INHALATION TOXICITY:**
Slightly toxic
Inhalation $LC_{50}$ 3.4 mg/L (58% pyrethrins)

**EYE CONTACT:** Minimally irritating (rabbit)

**SKIN CONTACT:** Minimally irritating (rabbit)

**SKIN SENSITIZATION:** Not a skin sensitizer (guinea pig)

**MUTAGENIC POTENTIAL:** Pyrethrins – none observed

**REPRODUCTIVE HAZARD POTENTIAL:**
Pyrethrins – none observed

**CHRONIC/SUBCHRONIC TOXICITY**
Pyrethrins – none observed

**CARCINOGENICITY/ONCOGENICITY:** Pyrethrum has been tested in chronic feeding studies in mice and rats. Slightly elevated incidences of benign tumors of the thyroid and liver were seen in rats following high doses of Pyrethrum. Further detailed scientific studies into the mechanism causing these responses indicate that these effects in animals only occur at doses greatly exceeding the likely human exposure levels. Thus, the effects seen in animals are of little relevance to humans.

**OTHER TOXICITY INFORMATION:** Not available

**ACUTE TOXICITY/IRRITATION STUDIES**

**PIPERONYL BUTOXIDE (TECHNICAL GRADE):**

**ACUTE ORAL TOXICITY:**
Minimally toxic
Oral $LD_{50}$ (rat): 4,570 mg/kg – males
7,220 mg/kg - females

**ACUTE DERMAL TOXICITY:**
Slightly toxic
Dermal $LD_{50}$ (rabbit): >2,000 mg/kg

**ACUTE INHALATION TOXICITY:**
Slightly toxic
Inhalation $LC_{50}$ >5.9 mg/L

**EYE CONTACT:** Slightly irritating (rabbit)

**SKIN CONTACT:** Minimally irritating (rabbit)

**SKIN SENSITIZATION:** Not a skin sensitizer (guinea pig)

**MUTAGENIC POTENTIAL:** None observed

**REPRODUCTIVE HAZARD POTENTIAL:**
None observed

**CHRONIC/SUBCHRONIC TOXICITY**
None observed

**CARCINOGENIC POTENTIAL:** Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to Piperonyl Butoxide. The significance of this observation is questionable and under review. The doses at which tumors were observed greatly exceeded potential human exposure from labeled uses. Doses at which these effects were observed greatly exceeded human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that this product would result in carcinogenic effects.

**OTHER TOXICITY INFORMATION:**

**MUTAGENICITY:** 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.

**TERATOLOGY/REPRODUCTIVE EFFECTS:** There were no birth defects or adverse effects on reproductive parameters in rats or rabbits. Piperonyl Butoxide is not considered to be teratogenic.

**TOXICITY OF OTHER COMPONENTS:**

**EMULSIFIER:** The supplier notes that the emulsifier may cause severe eye irritation from contact. Also, prolonged skin contact with soaked clothing may cause irritation. Inhalation may cause chest pain and coughing. Ingestion may cause nausea, vomiting and diarrhea. The supplier does not note any chronic toxicity.

**PETROLEUM SOLVENT:** The supplier reports that overexposure to this solvent may cause kidney damage. Exposure to the liquid may cause eye irritation and mild skin irritation. Breathing can cause nasal and respiratory irritation, central nervous system effects including dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even death. Swallowing can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration into the lungs can cause aspiration pneumonia, which can be fatal.

**TARGET ORGANS:**

**ACTIVE INGREDIENTS:** Central nervous system

**INERT INGREDIENTS:** Emulsifier: Eyes, skin, respiratory tract. Petroleum Solvent: Respiratory tract, central nervous system and skin.

## 12. ECOLOGICAL INFORMATION

**SUMMARY OF EFFECTS:** Pyrethrins are highly toxic to fish and aquatic organisms.

**ECO-ACUTE TOXICITY:**

**PYRETHRINS (58%)**

| | |
|---|---|
| Rainbow trout 96-hour LC50 | 5.2 μg/L |
| Bluegill sunfish 96-hour LC50 | 10 μg/L |
| Honeybee Acute | 0.022 μg/bee |
| Daphnia magna 48-hour LC50 | 12 μg/L |
| Bobwhite Quail Oral LD50 | >2,000 mg/kg |
| Bobwhite 5 day dietary LC50 | >5,620 ppm |
| Mallard 5 day dietary LC50 | >5,620 ppm |

**PIPERONYL BUTOXIDE (TECHNICAL GRADE)**

| | |
|---|---|
| Rainbow Trout 96-hour LC50 | 6.12 ppm |
| Bluegill Sunfish 96-hour LC50 | 5.37 ppm |
| Daphnia Magna 48-hour LC50 | 0.51 ppm |
| Honeybee Acute | >25 μg/bee |
| Bobwhite Quail Oral LD50 | >2,250 mg/kg |
| Bobwhite 5 day dietary LC50 | >5,620 ppm |
| Mallard 5 day dietary LC50 | >5,620 ppm |

**ECO-CHRONIC TOXICITY:**

**PYRETHRINS (58%)**

Fish (Fathead Minnow) Early life stage MATC
>1.9 μg total pyrethrins/L
Invertebrate (Daphnia Magna) Life cycle MATC
1.3 μg total pyrethrins/L

**PIPERONYL BUTOXIDE (TECHNICAL GRADE)**

Fish (Fathead Minnow) Early life stage MATC
>0.18 mg/L - <0.42 mg/L
Invertebrate (Daphnia Magna) life cycle MATC
>30 μg/L - <47 μg/L

**ENVIRONMENTAL FATE:** Not available

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL:** Do not reuse product containers. Dispose of product containers, waste containers, and residues according to Federal, State and local health and environmental regulations.

**CHARACTERISTIC WASTE:** Ignitable

**LISTED WASTE:** None

## 14. TRANSPORT INFORMATION

**DOT CLASSIFICATION:** Combustible liquid, n.o.s. (petroleum naptha), NA1993, PG III, RQ (Pyrethrins)

**B/L FREIGHT CLASSIFICATION:** Insecticides; other than poison, NMFC item 102120

**INTERNATIONAL TRANSPORTATION:** Not Available

## 15. REGULATORY INFORMATION

**SARA TITLE III – SECTION 311/312**
**ACUTE HEALTH HAZARD**
**FIRE HAZARD**

**SARA TITLE III – SECTION 313 CHEMICALS:**
Piperonyl Butoxide (60%)

**This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III and of 40 CFR 372. Any copies or redistribution of this MSDS must include this notice.**

**PROPOSITION 65:** Not applicable

**CERCLA REPORTABLE QUANTITY (RQ):** 16.67 lb

**RCRA CLASSIFICATION:** Ignitable

**TSCA STATUS:** Exempt from TSCA

## 16. OTHER INFORMATION

**DATE PREPARED:** May 23, 2003

**SUPERSEDES:** February 3, 2003

**REASON:** Revision of Section II

**DISCLAIMER:**
Envincio LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Envincio LLC, and Buyer and User assume the risk of any such use. To the extent consistent with applicable law, ENVINCIO LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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