Chemical Factsheet

Etofenprox

General Information

- Fact Sheet: Synthetic Pyrethroids.pdf
- Product Names:
  Boxer™ (Vapco)
  Ecolofen™ (Mitsui Chemicals Agro, Inc.)
  Lenatop™ (Mitsui Chemicals Agro, Inc.)
  Trebon™ (Mitsui Chemicals Agro, Inc.)
  Vectron™ (Mitsui Chemicals Agro, Inc.)
  Vermitol™ (Mitsui Chemicals Agro, Inc.)
  Zenprox™ (Mitsui Chemicals Agro, Inc.)
- Chemical Class: Synthetic Pyrethroid Ether Insecticide
- Uses: Agriculture, horticulture, viticulture, forestry, animal health (pet-cleaning products, pet-flea collar treatments) and against various insects (indoor & outdoor mosquito foggers, fleas, thrips, wasp, whiteflies, Hemiptera [aphids, rice green leafhopper and planthoppers resistant to organophosphorus or carbamate insecticides], moths, beetles [borers], weevils, crevice spot treatments.)

- Alternatives: **ManageSafe™**, **Organic Agriculture**, **Least-toxic mosquito control**
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

- Cancer: Likely (**1**, **2**)
- Endocrine Disruption: Possible (**2**, **3**, **4**)
- Reproductive Effects: Possible (**4**)
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Yes (**1**)
- Sensitizer/ Irritant: Yes (**2**)
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: Likely (**5**)
- Toxic to Birds: Not documented
- Toxic to Fish/Aquatic Organisms: Yes (**6**)
- Toxic to Bees: Yes (**2**)

Residential Uses as Found in the ManageSafe™ Database

- Fleas
- Mosquitoes
- Thrips
- Whiteflies

- Wasps and Yellowjackets
- Ticks
- Gypsy Moths
- Aphids
- Emerald Ash Borer
- Carpet Beetle
- Pantry Moths

Additional Information

- Regulatory Status:
  - BP Comments February 2026
  - **Pesticide Registration Review: Proposed Interim Decisions for Several Pesticides**(05/05/2020)
  - **Amended Final Work Plan for Etofenprox Registration Review December 2011** (12/06/2011)
  - **EPA: 40 CFR § 180.620 - Etofenprox; tolerances for residues.** (04/27/2011)
  - **Etofenprox/Nylar Spot-On Flea and Tick for Dogs and Puppies** (04/29/2010)
  - **Etofenprox; Pesticide Tolerance: A Rule by the Environmental Protection Agency** (12/12/2008)
  - **Etofenprox: Occupational and Residential Exposure/Risk Assessment for Proposed Section 3 Uses on Rice and as ULV Mosquito Adulticide.** (06/09/2008)
  - **Etofenprox Final Work Plan (FWP) For Registration Review January, 2008** (01/01/2008)
  - **Etofenprox (also Ethofenprox) Summary Document Registration Review: Initial Docket August 2007** (08/01/2007)
  - **Etofenprox: Occupational and Residential Exposure Assessment for Proposed Section 3 Registration on Domestic Pets.** (04/06/2006)
  - **Registration With Conditions of the New Active Ingredient Etofenprox Contained in the Pesticide Products Etofenprox Technical (EPA Reg. No. 33657-6) and 1% Etofenprox Aerosol (EPA Reg. No. 33657-9)** (02/11/2005)
  - **EPA Reg. Number: 69332-3. Product Name: SPI #8208-55D. repellancy of the registrant's spot-on for cats.** (10/20/2004)
  - **NOTICE OF PESTICIDE: Registration (under FIFRA) of Etofenprox Technical** (09/14/2001)
  - **ETOFENPROX (ETHOFENPROX): Decision Regarding Reclassification Consideration by the HED Carcinogenicity Peer Review Committee.** (08/29/1996)
  - **Review of Acute Fish Toxicity Studies Submitted to Support the Registration of Etofenprox**. (04/12/1996)
  - **Product Chemistry Review Section. Product Name: Etophenprox Aerosol.** (10/13/1995)
  - Product Chemistry Review on Etofenprox. (**10/06/1994**) (**04/18/1995**)
  - **Application for registration of a product containing a new chemical active ingredient (Etofenprox) for which non-food uses only are involved.** (02/04/1988)
- Supporting information:
    - **Backyard Mosquito Management** (Beyond Pesticides)
    - Daily News Blog (Beyond Pesticides)
    - ETOFENPROX: Safety Summary for Veterinary Use in Dogs and Cats - Poisoning, intoxication, overdose, antidote (Parasitipedia)
    - FAO Specifications and Evaluations for Agricultural Pesticides ETOFENPROX 2-(4-ethoxyphenyl)-2-methylpropyl 3-phenoxybenzyl ether (Food and Agirculture

Organization)
        - Least-toxic Control of Fleas
        - **Least-toxic Control of Mosquitoes** (Beyond Pesticides)
        - Pesticide Database: Etofenprox (Pesticide Action Network)
        - Pesticide Properties Database (PPDB): Etofenprox (Ref: MTI 500) (University of Hertfordshire, United Kingdom)
- Studies [compiled from the Pesticide-Induced Diseases Database]
    - The impact of insecticides applied in apple orchards on the predatory mite *Kampimodromus aberrans* (Acari: Phytoseiidae) Duso, C., Ahmad, S., Tirello, P., Pozzebon, A., Klaric, V., Baldessari, M., Malagnini, V. and Angeli, G., 2014. *62*(3), pp.391-414.
    - Monitoring the aquatic toxicity of mosquito vector control spray pesticides to freshwater receiving waters. Phillips, B. M., Anderson, B. S., Voorhees, J. P., Siegler, K., Denton, D., TenBrook, P., Larsen, K., Isorena, P., & Tjeerdema, R. S. (2014). Monitoring the aquatic toxicity of mosquito vector control spray pesticides to freshwater receiving waters. Integrated environmental assessment and management, 10(3), 449–455. https://doi.org/10.1002/ieam.1534
    - Characterizing pyrethroid and fipronil concentrations in biosolids. Wheeler, J., Black, G. P., Hladik, M. L., Sanders, C. J., Teerlink, J., Wong, L., Zhang, X., Budd, R., & Young, T. M. (2025). Characterizing pyrethroid and fipronil concentrations in biosolids. The Science of the total environment, 969, 178954. https://doi.org/10.1016/j.scitotenv.2025.178954
    - Flood-borne pesticides are transferred from riparian soil via plants to phytophagous aphids. Fiolka, F., Fuchs, T., Roodt, A. P., Manfrin, A., & Schulz, R. (2025). Flood-borne pesticides are transferred from riparian soil via plants to phytophagous aphids. Chemosphere, 377, 144355. https://doi.org/10.1016/j.chemosphere.2025.144355

Gateway Health and Environmental Effects Citations

1. Hojo, Y., Shiraki, A., Tsuchiya, T., Shimamoto, K., Ishii, Y., Suzuki, K., Shibutani, M. and Mitsumori, K., 2012. Liver tumor promoting effect of etofenprox in rats and its possible mechanism of action. The Journal of toxicological sciences, 37(2), pp.297-306. https://doi.org/10.2131/jts.37.297

2. Pesticide Action Network, 2019. PAN Pesticide Database. http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PRI3067

3. De Coster, S. and Van Larebeke, N., 2012. Endocrine-disrupting chemicals: associated disorders and mechanisms of action. *Journal of environmental and public health*, *2012*. https://doi.org/10.1155/2012/713696

4. Hayashi, K., Nakae, A., Fukushima, Y., Sakamoto, K., Furuichi, T., Kitahara, K., Miyazaki, Y., Ikenoue, C., Matumoto, S. and Toda, T., 2010. Contamination of rice by etofenprox, diethylphthalate and alkylphenols: effects on first delivery and sperm count in mice. *The Journal of toxicological sciences*, *35*(1), pp.49-55. https://doi.org/10.2131/jts.35.49

5. Terzaghi, E., Vitale, C.M. and Di Guardo, A., 2020. Modelling peak exposure of pesticides in terrestrial and aquatic ecosystems: importance of dissolved organic carbon and vertical particle movement in soil. SAR and QSAR in Environmental Research, 31(1), pp.19-32. https://doi.org/10.1080/1062936X.2019.1686715

6. Benli, A.C.K., 2015. The influence of etofenprox on narrow clawed crayfish (Astacus leptodactylus Eschscholtz, 1823): Acute toxicity and sublethal effects on histology, hemolymph parameters, and total hemocyte counts. *Environmental toxicology*, *30*(8), pp.887-894.

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