

Chemical Factsheet

Fenpropathrin

General Information

- Product Names:
 - Danitol** (Valent)
 - Tame 2.4** (Valent)
 - V-10141 2.8** (Valent) formulated with Etoxazole
- Chemical Class: Pyrethroid insecticide (miticide)
- Uses: Agriculture, ornamentals
- Alternatives: [Organic agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

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

Additional Information

- Regulatory Status:
 - [EPA Fenpropathrin Interim Registration Review Decision](#) (2020)
- Supporting information:
 - [PAN Pesticides Database: Fenpropathrin](#) (Pesticide Action Network)
 - [CA Dept. of Pesticide Regulation](#)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Pre-Conception And First Trimester Exposure To Pesticides And Associations With Stillbirth](#). Furlong, M. et al. (2024) Pre-conception and first trimester exposure to pesticides and associations with stillbirth, American Journal of Epidemiology. Available at: <https://academic.oup.com/aje/advance-article-abstract/doi/10.1093/aje/kwae198/7714541>
 - [Occurrence of Current-Use Pesticides in Paired Indoor Dust, Drinking Water, and Urine Samples from the United States: Risk Prioritization and Health Implications](#). Xie, Y., Li, J., Salamova, A., & Zheng, G. (2025). Occurrence of Current-Use Pesticides in Paired Indoor Dust, Drinking Water, and Urine Samples from the United States: Risk Prioritization and

Health Implications. Environmental science & technology, 59(25), 12507–12519.
<https://doi.org/10.1021/acs.est.5c00961>

- [Urinary pesticide biomarkers from adolescence to young adulthood in an agricultural setting in Ecuador: Study of secondary exposure to pesticides among children, adolescents, and adults \(ESPINA\) 2016 and 2022 examination data.](#) Parajuli, R. et al. (2025) Urinary pesticide biomarkers from adolescence to young adulthood in an agricultural setting in Ecuador: Study of secondary exposure to pesticides among children, adolescents, and adults (ESPINA) 2016 and 2022 examination data, Data in Brief. Available at:
<https://www.sciencedirect.com/science/article/pii/S2352340925006067>.
- [The Effect of the Pyrethroid Pesticide Fenpropathrin on the Cardiac Performance of Zebrafish and the Potential Mechanism of Toxicity.](#) Saputra, F., Lai, Y. H., Roldan, M. J. M., Alos, H. C., Aventurado, C. A., Vasquez, R. D., & Hsiao, C. D. (2023). The Effect of the Pyrethroid Pesticide Fenpropathrin on the Cardiac Performance of Zebrafish and the Potential Mechanism of Toxicity. *Biology*, 12(9), 1214.
<https://doi.org/10.3390/biology12091214>
- [The mechanistic pathway induced by fenpropathrin toxicity: Oxidative stress, signaling pathway, and mitochondrial damage.](#) Soliman, Maher M et al. “The mechanistic pathway induced by fenpropathrin toxicity: Oxidative stress, signaling pathway, and mitochondrial damage.” *Journal of biochemical and molecular toxicology* vol. 38,11 (2024): e70020. doi:10.1002/jbt.70020
- [Enantiomer-Specific Study of Fenpropathrin in Soil-Earthworm Microcosms: Enantioselective Bioactivity, Bioaccumulation, and Toxicity.](#) Zhang, Ping et al. “Enantiomer-Specific Study of Fenpropathrin in Soil-Earthworm Microcosms: Enantioselective Bioactivity, Bioaccumulation, and Toxicity.” *Journal of agricultural and food chemistry* vol. 70,41 (2022): 13152-13164. doi:10.1021/acs.jafc.2c04624
- [Developmental effects of fenpropathrin on zebrafish \(Danio rerio\) embryo-larvae: Toxic endpoints and potential mechanism.](#) Ma, Junguo et al. “Developmental effects of fenpropathrin on zebrafish (Danio rerio) embryo-larvae: Toxic endpoints and potential mechanism.” *Pesticide biochemistry and physiology* vol. 208 (2025): 106262. doi:10.1016/j.pestbp.2024.106262
- [Fenpropathrin exposure induces neurotoxicity in zebrafish embryos.](#) Yu, T., Xu, X., Mao, H. et al. Fenpropathrin exposure induces neurotoxicity in zebrafish embryos. *Fish Physiol Biochem* 48, 1539–1554 (2022). <https://doi.org/10.1007/s10695-022-01134-9>
- [Fenpropathrin causes alterations in locomotion and social behaviors in zebrafish \(Danio rerio\).](#) Liu, Sian-Tai et al. “Fenpropathrin causes alterations in locomotion and social behaviors in zebrafish (Danio rerio).” *Aquatic toxicology (Amsterdam, Netherlands)* vol. 265 (2023): 106756. doi:10.1016/j.aquatox.2023.106756
- [Adverse effects of fenpropathrin on the intestine of common carp \(Cyprinus carpio L.\) and the mechanism involved.](#) Xiu, Wenyao et al. “Adverse effects of fenpropathrin on the intestine of common carp (Cyprinus carpio L.) and the mechanism involved.” *Pesticide biochemistry and physiology* vol. 199 (2024): 105799. doi:10.1016/j.pestbp.2024.105799
- [Comprehensive assessment of fenpropathrin on the health of non-target organisms: Integrating in vivo, in vitro, and in silico methodologies.](#) Liu, Z. et al. (2025) Comprehensive assessment of fenpropathrin on the health of non-target organisms: Integrating in vivo, in vitro, and in silico methodologies, *Journal of Environmental Sciences*. Available at:
<https://www.sciencedirect.com/science/article/abs/pii/S1001074225006321>.
- [Fenpropathrin increases gliquidone absorption via causing damage to the integrity of intestinal barrier.](#) Xu, Li et al. “Fenpropathrin increases gliquidone absorption via causing damage to the integrity of intestinal barrier.” *Ecotoxicology and environmental safety* vol.

242 (2022): 113882. doi:10.1016/j.ecoenv.2022.113882

- [Understanding fenpropathrin-induced pulmonary toxicity: What apoptosis, inflammation, and pyreptosis reveal analyzing cross-links at the molecular, immunohistochemical, and immunofluorescent levels](#). Mohamed, Amany Abdel-Rahman et al. "Understanding fenpropathrin-induced pulmonary toxicity: What apoptosis, inflammation, and pyreptosis reveal analyzing cross-links at the molecular, immunohistochemical, and immunofluorescent levels." Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association vol. 186 (2024): 114520. doi:10.1016/j.fct.2024.114520
- [Preconception and first trimester exposure to pesticides and associations with stillbirth](#). Furlong, M. A., Paul, K. C., Parra, K. L., Fournier, A. J., Ellsworth, P. C., Cockburn, M. G., Arellano, A. F., Bedrick, E. J., Beamer, P. I., & Ritz, B. (2025). Preconception and first trimester exposure to pesticides and associations with stillbirth. American journal of epidemiology, 194(1), 44-55. <https://doi.org/10.1093/aje/kwae198>
- [Pyrethroid-induced cardiac Dysfunction: A systematic review and meta-analysis of preclinical evidence](#). Durço, A. et al. (2026) Pyrethroid-induced cardiac Dysfunction: A systematic review and meta-analysis of preclinical evidence, Chemico-Biological Interactions. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0009279726001389>.

Gateway Health and Environmental Effects Citations

1. Pesticide Action Network Pesticide Database. http://www.pesticideinfo.org/Search_Chemicals.jsp.
2. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](http://pubchem.ncbi.nlm.nih.gov)
3. Tew, J.E. 1996. Protecting Honeybees from Pesticides. Ohio State University Cooperative Extension. <http://web.archive.org/web/20031123075324/http://beelab.osu.edu/factsheets/sheets/2161.html>

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