

Chemical Factsheet

Cyantraniliprole

General Information

- Product Names:
 - Zyrox® Fly Granular Bait**
 - Exirel Insect Control**
 - Benevia® Insect Control**
 - Cynt 200 Sc Mup**
 - Ference®**
 - Cyantraniliprole 200sc Mup**
 - Mainspring Gnl**
 - Verimark Insect Control**
 - Fortenza® Red**
 - Fortenza®**
 - Lumiderm Insecticide Seed Treatment**
 - Cyazypyr Technical**
- Chemical Class: diamide (carboxamide)
- Uses: a broad-spectrum insecticide used to control a wide range of pests in agriculture, horticulture, and on ornamental plants.
- Alternatives: [Organic Agriculture](#), [ManageSafe™](#)
- 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: Not documented
- Kidney/Liver Damage: Not documented
- Sensitizer/ Irritant: Not documented
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: Not documented
- Toxic to Birds: Not documented
- Toxic to Fish/Aquatic Organisms: Yes (1)
- Toxic to Bees: Not documented

Additional Information

- Regulatory Status:
 - [EPA Pesticide Tolerances](#) (2024)
 - [EPA Releases Draft Biological Evaluation of Cyantraniliprole's Effects on Endangered Species](#) (2023)
- Supporting information:

- [PAN Pesticides Database: Cyantraniliprole](#) (Pesticide Action Network)
- [Xerces Society: Cyantraniliprole](#)
- Center for Biological Diversity Press Release - [Legal Victory: Court Orders EPA to Protect Endangered Wildlife From Toxic Pesticide](#) (2022)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Cyantraniliprole impairs reproductive parameters by inducing oxidative stress in adult female wistar rats](#). da Silva Scarton, S. R., Tsuzuki, F., Guerra, M. T., Dos Santos, D. P., Dos Santos, A. C., Guimarães, A. T. B., Simão, A. N. C., Beu, C. C. L., & Fernandes, G. S. A. (2022). Cyantraniliprole impairs reproductive parameters by inducing oxidative stress in adult female wistar rats. *Reproductive toxicology* (Elmsford, N.Y.), 107, 166–174. <https://doi.org/10.1016/j.reprotox.2021.12.009>
 - [Assessment of acute and chronic toxicity of cyantraniliprole and sulfoxaflor on honey bee \(*Apis mellifera*\) larvae](#). Kim, J., Chon, K., Kim, B. S., Oh, J. A., Yoon, C. Y., & Park, H. H. (2022). Assessment of acute and chronic toxicity of cyantraniliprole and sulfoxaflor on honey bee (*Apis mellifera*) larvae. *Pest management science*, 78(12), 5402–5412. <https://doi.org/10.1002/ps.7162>
 - [Growth, DNA damage and biochemical toxicity of cyantraniliprole in earthworms \(*Eisenia fetida*\)](#). Qiao, Z., Zhang, F., Yao, X., Yu, H., Sun, S., Li, X., Zhang, J., & Jiang, X. (2019). Growth, DNA damage and biochemical toxicity of cyantraniliprole in earthworms (*Eisenia fetida*). *Chemosphere*, 236, 124328. <https://doi.org/10.1016/j.chemosphere.2019.07.059>
 - [Residue and toxicity of cyantraniliprole and its main metabolite J9Z38 in soil-earthworm microcosms](#). Zhang, X., Wang, X., Liu, Y., Fang, K., & Liu, T. (2020). Residue and toxicity of cyantraniliprole and its main metabolite J9Z38 in soil-earthworm microcosms. *Chemosphere*, 249, 126479. <https://doi.org/10.1016/j.chemosphere.2020.126479>
 - [Digging below the surface: Hidden risks for ground-nesting bees](#). Rondeau, S. (2024) Digging below the surface: Hidden risks for ground-nesting bees, *Science*. Available at: <https://www.science.org/doi/10.1126/science.adt8998>.
 - [Quantifying exposure of bumblebee \(*Bombus* spp.\) queens to pesticide residues when hibernating in agricultural soils](#). Rondeau, S. et al. (2022) Quantifying exposure of bumblebee (*Bombus* spp.) queens to pesticide residues when hibernating in agricultural soils, *Environmental Pollution*. Available at: <https://pubmed.ncbi.nlm.nih.gov/35809712/>.
 - [Bumblebee \(*Bombus impatiens*\) queens prefer pesticide-contaminated soils when selecting underground hibernation sites](#). Rondeau, S. and Raine, N. (2024) Bumblebee (*Bombus impatiens*) queens prefer pesticide-contaminated soils when selecting underground hibernation sites, *The Science of the Total Environment*. Available at: <https://pubmed.ncbi.nlm.nih.gov/39332727/>.
 - [Size-dependent responses of colony-founding bumblebee \(*Bombus impatiens*\) queens to exposure to pesticide residues in soil during hibernation](#). Rondeau, S. and Raine, N. (2024) Size-dependent responses of colony-founding bumblebee (*Bombus impatiens*) queens to exposure to pesticide residues in soil during hibernation, *The Science of the Total Environment*. Available at: <https://pubmed.ncbi.nlm.nih.gov/39029756/>.
 - [Comparing the Acute Toxicity of Imidacloprid with Alternative Systemic Insecticides in the Aquatic Insect *Chironomus dilutus*](#). Erin M. Maloney, Hunter Sykes, Christy Morrissey, Kerry M. Peru, John V. Headley, Karsten Liber, Comparing the Acute Toxicity of Imidacloprid with Alternative Systemic Insecticides in the Aquatic Insect *Chironomus dilutus*, *Environmental Toxicology and Chemistry*, Volume 39, Issue 3, 1 March 2020, Pages 587–594, <https://doi.org/10.1002/etc.4639>
 - [Transcriptomics and enzymology combined five gene expressions to reveal the responses of earthworms \(*Eisenia fetida*\) to the long-term exposure of cyantraniliprole in soil](#). Qiao, Zhihua et al. “Transcriptomics and enzymology combined five gene expressions to reveal the responses of earthworms (*Eisenia fetida*) to the long-term exposure of cyantraniliprole

in soil." Ecotoxicology and environmental safety vol. 209 (2021): 111824.
doi:10.1016/j.ecoenv.2020.111824

Gateway Health and Environmental Effects Citations

1. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](#)

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