Chemical Factsheet

Fluopyram

General Information

- Product Names:
  LUNA PRIVILEGE
  PROPULSE
  LUNA SENSATION
  LUNA TRANQUILITY
  Velum Total
- Chemical Class: Pyridinyl-ethybenzamide fungicide
- Uses: Agriculture, greenhouses, drip irrigation
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

- Cancer: Yes (**1**, **2**)
- Endocrine Disruption: Yes (**1**)
- Reproductive Effects: Not documented
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Yes (**1**)
- 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 Regulatory Documents
  - EPA Fluopyram Final Work Plan (June 2022)
- Supporting information:
  - **PAN Pesticides Database: Fluopyram** (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Direct pesticide exposure of insects in nature conservation areas in Germany. Brühl, C.A., Bakanov, N., Köthe, S., Eichler, L., Sorg, M., Hörren, T., Mühlethaler, R., Meinel, G. and Lehmann, G.U. Scientific reports, 11(1), pp.1-10.
  - Flooding as a Vector for the Transport of Pesticides from Streams to Riparian Plants. Fiolka, F. et al. (2024) Flooding as a Vector for the Transport of Pesticides from Streams to Riparian Plants, American Chemical Society ES&T Water. Available at: https://pubs.acs.org/doi/abs/10.1021/acsestwater.4c00571.
  - Uptake and distribution of fluopyram and tebuconazole residues in tomato and bell

pepper plant tissues. Matadha, N.Y. et al. (2019) Uptake and distribution of fluopyram and tebuconazole residues in tomato and bell pepper plant tissues, Environmental Science and Pollution Research. Available at: https://link.springer.com/article/10.1007/s11356-018-04071-4.
- Current-use pesticides in vegetation, topsoil and water reveal contaminated landscapes of the Upper Rhine Valley, Germany. Mauser, K.M., Wolfram, J., Spaak, J.W. et al. Current-use pesticides in vegetation, topsoil and water reveal contaminated landscapes of the Upper Rhine Valley, Germany. Commun Earth Environ 6, 166 (2025). https://doi.org/10.1038/s43247-025-02118-2
- Distribution of fluopyram and tebuconazole in pomegranate tissues and their risk assessment. Yogendraiah Matadha, N., Mohapatra, S., & Siddamallaiah, L. (2021). Distribution of fluopyram and tebuconazole in pomegranate tissues and their risk assessment. Food chemistry, 358, 129909. https://doi.org/10.1016/j.foodchem.2021.129909
- Oxidative stress, intestinal damage, and cell apoptosis: Toxicity induced by fluopyram in Caenorhabditis elegans. Liu, Y., Zhang, W., Wang, Y., Liu, H., Zhang, S., Ji, X., & Qiao, K. (2022). Oxidative stress, intestinal damage, and cell apoptosis: Toxicity induced by fluopyram in Caenorhabditis elegans. Chemosphere, 286(Pt 3), 131830. https://doi.org/10.1016/j.chemosphere.2021.131830
- Fluopyram activates systemic resistance in soybean. Rocha, L. F., Subedi, A., Pimentel, M. F., Bond, J. P., & Fakhoury, A. M. (2022). Fluopyram activates systemic resistance in soybean. Frontiers in plant science, 13, 1020167. https://doi.org/10.3389/fpls.2022.1020167
- The Fate of Fluopyram in the Soil–Water–Plant Ecosystem: A Review. Rathod, P.H., Shah, P.G., Parmar, K.D. et al. The Fate of Fluopyram in the Soil–Water–Plant Ecosystem: A Review. Reviews Env.Contamination (formerly:Residue Reviews) 260, 1 (2022). https://doi.org/10.1007/s44169-021-00001-7
- Combined toxicity of trifloxystrobin and fluopyram to zebrafish embryos and the effect on bone development. Zhang, T., Yuan, J., Guo, Y., Wang, X., Li, Q. X., Zhang, J., Xie, J., Miao, W., & Fan, Y. (2024). Combined toxicity of trifloxystrobin and fluopyram to zebrafish embryos and the effect on bone development. Aquatic toxicology (Amsterdam, Netherlands), 268, 106834. https://doi.org/10.1016/j.aquatox.2024.106834
- Currently used and legacy pesticides in the marine atmosphere from Patagonia to Europe. Debler, F., Gandrass, J., Paul Ramacher, M. O., Koenig, A. M., Zimmermann, S., & Joerss, H. (2025). Currently used and legacy pesticides in the marine atmosphere from Patagonia to Europe. Environmental pollution (Barking, Essex : 1987), 373, 126175. Advance online publication. https://doi.org/10.1016/j.envpol.2025.126175
- Insights into the chronic toxicity and mechanisms of fluorine-containing pesticides on earthworms. Shan, D. et al. (2025) Insights into the chronic toxicity and mechanisms of fluorine-containing pesticides on earthworms, Environmental Toxicology and Pharmacology. Available at: https://www.sciencedirect.com/science/article/abs/pii/S1382668925001863.
- Honey bee hives as biomonitors of pesticide environmental pollution. The INSIGNIA-EU monitoring action. Fernández-Alba, A. et al. (2025) Honey bee hives as biomonitors of pesticide environmental pollution. The INSIGNIA-EU monitoring action, Science of The Total Environment. Available at: https://www.sciencedirect.com/science/article/pii/S0048969725019254.
- 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

- Flood Frequency and Duration Drive the Aquatic-Terrestrial Pesticide Transfer to Riparian Root-Zone Soil: A Mesocosm Study. Fiolka, F. et al. (2026) Flood Frequency and Duration Drive the Aquatic-Terrestrial Pesticide Transfer to Riparian Root-Zone Soil: A Mesocosm Study, Archives of Environmental Contamination and Toxicology. Available at: https://link.springer.com/article/10.1007/s00244-026-01190-9.
- High temporal resolution pollen analysis: New insights into current-use pesticides distribution in agricultural landscapes. Cirelli, S. et al. (2026) High temporal resolution pollen analysis: New insights into current-use pesticides distribution in agricultural landscapes, Environmental Pollution. Available at: https://www.sciencedirect.com/science/article/pii/S0269749126007189.

Gateway Health and Environmental Effects Citations

1. US EPA, Office of Prevention, Pesticides and Toxic Substances, Reregistration Eligibility Decisions (REDs), Interim REDS (iREDs) and RED Factsheets. https://archive.epa.gov/pesticides/reregistration/web/html/status.html.

2. Pesticide Action Network Pesticide Database. http://www.pesticideinfo.org/Search_Chemicals.jsp.

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