

# Chemical Factsheet

## Fludioxonil

### General Information

- Product Names:
  - Cannonball** (Syngenta)
  - Graduate** (Syngenta)
  - Hurricane** (Syngenta) formulated with Metalaxyl-M
  - Maixm** (Syngenta)
  - Medallion** (Syngenta)
  - Scholar** (Syngenta)
  - Sporgard** (Lanxess)
  - Tc 281** (Whitmire)
  - EFOG-80** (Pace)
  - Shield-brite** (Pace)
- Chemical Class: Unclassified
- Uses: Fungicide
- Alternatives: [Organic agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

### Health and Environmental Effects

*See citations at end of document.*

- Cancer: Possible (1, 2)
- Endocrine Disruption: Likely (1, 3)
- Reproductive Effects: Possible (3)
- Neurotoxicity: Possible (4, 5)
- Kidney/Liver Damage: Yes (6)
- Sensitizer/ Irritant: Yes (6)
- Birth/Developmental: Possible (7, 8)
- Detected in Groundwater: Possible (9)
- Potential Leacher: Low (6)
- Toxic to Birds: Possible (10)
- Toxic to Fish/Aquatic Organisms: Yes (6)
- Toxic to Bees: Yes (6)

### Additional Information

- Supporting information:
  - [PAN Pesticides Database:Fludioxonil](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
  - [Effect of nonpersistent pesticides on estrogen receptor, androgen receptor, and aryl hydrocarbon receptor](#). Medjakovic S, Zoehling A, Gerster P, et al. 2014. Environ Toxicol. 29(10):1201-16
  - [A Th2-type immune response and low-grade systemic inflammatory reaction as potential immunotoxic effects in intensive agriculture farmers exposed to pesticides](#). Lozano-

Paniagua, D. et al. (2024) 'A th2-type immune response and low-grade systemic inflammatory reaction as potential immunotoxic effects in intensive agriculture farmers exposed to pesticides', *Science of The Total Environment*, 938, p. 173545. doi:10.1016/j.scitotenv.2024.173545.

- [Toxic and Behavioral Effects to Carabidae of Seed Treatments Used on Cry3Bb1- and Cry1Ab/c-Protected Corn](#). Christopher A. Mullin, Michael C. Saunders, Timothy W. Leslie, David J. Biddinger, Shelby J. Fleischer, Toxic and Behavioral Effects to Carabidae of Seed Treatments Used on Cry3Bb1- and Cry1Ab/c-Protected Corn, *Environmental Entomology*, Volume 34, Issue 6, 1 December 2005, Pages 1626–1636, <https://doi.org/10.1603/0046-225X-34.6.1626>
- [A cumulative dietary pesticide exposure score based on produce consumption is associated with urinary pesticide biomarkers in a U.S. biomonitoring cohort](#). Temkin, A. et al. (2025) A cumulative dietary pesticide exposure score based on produce consumption is associated with urinary pesticide biomarkers in a U.S. biomonitoring cohort, *International Journal of Hygiene and Environmental Health*. Available at: <https://www.sciencedirect.com/science/article/pii/S1438463925001361>.
- [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

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2. Go, R.E., Kim, C.W., Jeon, S.Y., Byun, Y.S., Jeung, E.B., Nam, K.H. and Choi, K.C., 2017. Fludioxonil induced the cancer growth and metastasis via altering epithelial-mesenchymal transition via an estrogen receptor-dependent pathway in cellular and xenografted breast cancer models. *Environmental Toxicology*, 32(4), pp.1439-1454. <https://doi.org/10.1002/tox.22337>
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4. Brandhorst, T.T. and Klein, B.S., 2019. Uncertainty surrounding the mechanism and safety of the post-harvest fungicide fludioxonil. *Food and Chemical Toxicology*, 123, pp.561-565. <https://doi.org/10.1016/j.fct.2018.11.037>
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7. Ko, E.B., Hwang, K.A. and Choi, K.C., 2019. Effects of fludioxonil on cardiac differentiation of mouse embryonic stem cells. In *21st European Congress of Endocrinology* (Vol. 63). BioScientifica.
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