

# Chemical Factsheet

## Azoxystrobin

### General Information

- Product Names:
  - Abound** (Syngenta)
  - Amistar** (Syngenta)
  - Dynasty** (Syngenta)
  - Heritage** (Syngenta)
  - Quadris** (Syngenta)
  - Protégé** (Bayer)
  - Sporgard** (Lanxess)
  - Quilt** (Syngenta) formulated with [Propiconazole](#)
  - Uniform** (Syngenta) formulated with [Metalaxyll](#)
- Chemical Class: beta-methoxyacrylate fungicide/antimicrobial; systemic
- Uses: Various agriculture and non-agricultural uses: fruits, vegetables, nuts, feed crops, turf, ornamentals, residential sites; additive treatment for paint, plastic, rubber, paper (textiles and adhesives); commercial/industrial sites.
- Alternatives: [Organic agriculture](#), [Organic lawn care](#)
- 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: Yes: eye (1)
- Birth/Developmental: Not documented
- Detected in Groundwater: Yes (2)
- Potential Leacher: Yes (1, 2)
- Toxic to Birds: Not documented
- Toxic to Fish/Aquatic Organisms: Yes (1, 2)
- Toxic to Bees: Not documented

### Additional Information

- Regulatory Status:
  - [EPA Regulatory Documents](#)
- Supporting information:
  - [Extoxnet Pesticide Factsheet](#) (Extension Toxicology Network)
  - [PAN Pesticides Database](#): (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
  - [Occurrence of Azoxystrobin, Propiconazole, and Selected Other Fungicides in US Streams](#),

- [2005-2006](#). [Battaglin, W, Sandstrom, M et al. 2010. Water Air Soil Pollution. 218 (1-4):307-322 ]
- [Occurrence, fate and effects of azoxystrobin in aquatic ecosystems: A review](#). [Rodrigues, ET, Lopes, I et al. 2013. Environment International 53:18-28]
  - [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.
  - [Bees under interactive stressors: the novel insecticides flupyradifurone and sulfoxaflor along with the fungicide azoxystrobin disrupt the gut microbiota of honey bees and increase opportunistic bacterial pathogens](#). Al Naggar, Y., Singavarapu, B., Paxton, R.J. and Wubet, T., 2022. Science of The Total Environment, 849, p.157941.
  - [Single and combined exposure to 'bee safe' pesticides alter behaviour and offspring production in a ground-nesting solitary bee \(Xenoglossa pruinosa\)](#). Rondeau, S. and Raine, N. (2024) Single and combined exposure to 'bee safe' pesticides alter behaviour and offspring production in a ground-nesting solitary bee (Xenoglossa pruinosa), Proceedings of the Royal Society Biological Sciences. Available at: <https://royalsocietypublishing.org/doi/10.1098/rspb.2023.2939>.
  - [Exposure to pesticides, persistent and non – persistent pollutants in French 3.5-year-old children: Findings from comprehensive hair analysis in the ELFE national birth cohort](#). Macheka, L. et al. (2024) Exposure to pesticides, persistent and non – persistent pollutants in French 3.5-year-old children: Findings from comprehensive hair analysis in the ELFE national birth cohort, Environment International. Available at: <https://www.sciencedirect.com/science/article/pii/S0160412024004677>.
  - [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>.
  - [Pesticides and prostate cancer incidence and mortality: An environment-wide association study](#). Soerensen, S. et al. (2024) Pesticides and prostate cancer incidence and mortality: An environment-wide association study, Cancer. Available at: <https://acsjournals.onlinelibrary.wiley.com/doi/10.1002/cncr.35572>.
  - [Immune response of Brazilian farmers exposed to multiple pesticides](#). Jacobsen-Pereira, C.H. et al. (2020) 'Immune response of Brazilian farmers exposed to multiple pesticides', Ecotoxicology and Environmental Safety, 202, p. 110912. doi:10.1016/j.ecoenv.2020.110912.
  - [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.
  - [Assessing the Presence of Current-Use Pesticides in Mid-Elevation Sierra Nevada Streams Using Passive Samplers, California, 2018-19](#). De Parsia, M.D., Orlando, J.L., and Hladik, M.L., 2023, Assessing the presence of current-use pesticides in mid-elevation Sierra Nevada streams using passive samplers, California, 2018-19: U.S. Geological Survey Scientific Investigations Report 2022-5129, 31 p., <https://doi.org/10.3133/sir20225129>.
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  - [Different effects of polyethylene microplastics on bioaccumulation of three fungicides in](#)

- [maize \(Zea mays L.\).](#) Qiu, S., Shen, H., Song, J. et al. Different effects of polyethylene microplastics on bioaccumulation of three fungicides in maize (Zea mays L.). *Crop Health* 2, 7 (2024). <https://doi.org/10.1007/s44297-024-00028-x>
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  - [Intensive vegetable production under plastic mulch: A field study on soil plastic and pesticide residues and their effects on the soil microbiome.](#) Beriot, N., Zornoza, R., Lwanga, E. H., Zomer, P., van Schothorst, B., Ozbolat, O., Lloret, E., Ortega, R., Miralles, I., Harkes, P., van Steenbrugge, J., & Geissen, V. (2023). Intensive vegetable production under plastic mulch: A field study on soil plastic and pesticide residues and their effects on the soil microbiome. *The Science of the total environment*, 900, 165179. <https://doi.org/10.1016/j.scitotenv.2023.165179>
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  - [Azoxystrobin Induces Apoptosis of Human Esophageal Squamous Cell Carcinoma KYSE-150 Cells through Triggering of the Mitochondrial Pathway.](#) Shi, X. K., Bian, X. B., Huang, T., Wen, B., Zhao, L., Mu, H. X., Fatima, S., Fan, B. M., Bian, Z. X., Huang, L. F., & Lin, C. Y. (2017). Azoxystrobin Induces Apoptosis of Human Esophageal Squamous Cell Carcinoma KYSE-150 Cells through Triggering of the Mitochondrial Pathway. *Frontiers in pharmacology*, 8, 277. <https://doi.org/10.3389/fphar.2017.00277>
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## 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. U.S. EPA, Office of Prevention, Pesticides and Toxic Substances, New Active Ingredients Factsheets:

<http://web.archive.org/web/20120107215849/http://www.epa.gov/oppd001/factsheets/index.htm>

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