# Chemical Factsheet

## Metalaxyl

### General Information

- Chemical Class: Benzenoid
- Uses: Fungicide used to control plant diseases caused by the Oomycetes or water-mold fungi. It is used on many food and feed crops, and on non-food, residential and greenhouse crops such as tobacco, ornamental plants, trees, shrubs and vines, and lawns and turf.
- Alternatives: Organic agriculture
- Beyond Pesticides rating: Toxic

### Health and Environmental Effects

*See citations at end of document.*

- Cancer: Not documented
- Endocrine Disruption: Likely (**1**)
- Reproductive Effects: Not documented
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Yes (**2**)
- Sensitizer/ Irritant: Yes (**3**)
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: Not documented
- Toxic to Birds: Yes (**4**)
- Toxic to Fish/Aquatic Organisms: Not documented
- Toxic to Bees: Not documented

### Residential Uses as Found in the ManageSafe™ Database

- Mold

### Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) signed (9/1994)
- Supporting information:
  - Extoxnet Metalaxyl Factsheet (Extension Toxicology Network)
  - PAN Pesticides Database - Metalaxyl (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Pesticide exposure and sleep disorder: A cross-sectional study among Thai farmers. Juntarawijit, C. et al. (2025) Pesticide exposure and sleep disorder: A cross-sectional study among Thai farmers, Heliyon. Available at: https://www.cell.com/heliyon/fulltext/S2405-8440(24)17154-X.
  - Pesticide exposure and risk of cardiovascular disease: A systematic review. Zago, A. M., Faria, N. M. X., Fávero, J. L., Meucci, R. D., Woskie, S., & Fassa, A. G. (2022). Pesticide exposure and risk of cardiovascular disease: A systematic review. Global public health,

17(12), 3944–3966. https://doi.org/10.1080/17441692.2020.1808693
- 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
- Assessing pesticide residue occurrence and risks in the environment across Europe and Argentina. Alaoui, A., Christ, F., Abrantes, N., Silva, V., González, N., Gai, L., Harkes, P., Navarro, I., Torre, A., Martínez, M. Á., Norgaard, T., Vested, A., Schlünssen, V., Aparicio, V. C., Campos, I., Pasković, I., Pasković, M. P., Glavan, M., Ritsema, C., & Geissen, V. (2024). Assessing pesticide residue occurrence and risks in the environment across Europe and Argentina. Environmental pollution (Barking, Essex : 1987), 363(Pt 1), 125056. https://doi.org/10.1016/j.envpol.2024.125056
- 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
- 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
- Associations of specific pesticides and incident rheumatoid arthritis among female spouses in the Agricultural Health Study. Parks, C. et al. (2025) Associations of specific pesticides and incident rheumatoid arthritis among female spouses in the Agricultural Health Study, Arthritis & Rheumatology. Available at: https://acrjournals.onlinelibrary.wiley.com/doi/10.1002/art.43318.

## Gateway Health and Environmental Effects Citations

1. Lerro, C.C., Freeman, L.E.B., DellaValle, C.T., Andreotti, G., Hofmann, J.N., Koutros, S., Parks, C.G., Shrestha, S., Alavanja, M.C., Blair, A. and Lubin, J.H., 2021. Pesticide exposure and incident thyroid cancer among male pesticide applicators in agricultural health study. *Environment International*, *146*, p.106187.

2. Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles. http://extoxnet.orst.edu/pips/ghindex.html

3. 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.

4. Mineau, P., A. Baril, B.T. Collins , J. Duffe, G. Joerman, R. Luttik. 2001. Reference values for comparing the acute toxicity of pesticides to birds. Reviews of Environmental Contamination and Toxicology 170:13-74. http://web.archive.org/web/20081006213641/http://www.abcbirds.org/abcprograms/policy/pesticides/aims/aims/toxicitytable.cfm

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