

Chemical Factsheet

Boscalid

General Information

- Product Names:
 - Emerald** (BASF)
 - Endura** (BASF)
 - Coronet** (BASF) formulated with [Pryaclostrobin](#)
 - Pageant** (BASF) formulated with [Praclostrobin](#)
 - Pristine** (BASF) formulated with [Pryaclostrobin](#)
- Chemical Class: Carboxamide (aka anilide) Fungicide
- Uses: Agriculture, Turf
- Alternatives: [Organic agriculture](#), [Organic lawn care](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Possible (1)
- Endocrine Disruption: Not documented
- Reproductive Effects: Not documented
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Yes (2)
- 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 (3, 2)
- Toxic to Bees: Not documented

Additional Information

- Regulatory Status:
 - [EPA Factsheet](#) (7/2003)
- Supporting information:
 - [PAN Pesticides Database: Boscalid](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Organic farming reduces pesticide load in a bird of prey](#). Fuentes, E. et al. (2024) Organic farming reduces pesticide load in a bird of prey, Science of The Total Environment. Available at: <https://www.sciencedirect.com/science/article/pii/S0048969724029255>.
 - [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>.
 - [Pesticide-Induced Inflammation at a Glance](#). Lopes-Ferreira, M. et al. (2023) 'Pesticide-

- induced inflammation at a glance', *Toxics*, 11(11), p. 896. doi:10.3390/toxics11110896.
- [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>
 - [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>
 - [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>
 - [Fate of pesticide residues in beer and its by-products](#). Hakme, E., Kallehauge Nielsen, I., Fermina Madsen, J., Storkehave, L. M., Skjold Elmelund Pedersen, M., Schulz, B. L., ... Duedahl-Olesen, L. (2023). Fate of pesticide residues in beer and its by-products. *Food Additives & Contaminants: Part A*, 41(1), 45–59. <https://doi.org/10.1080/19440049.2023.2282557>
 - [An insight into the sorption kinetics of boscalid onto soils: Effect of general soil properties](#). Bhatt, D., Srivastava, A., & Srivastava, P. C. (2023). An insight into the sorption kinetics of boscalid onto soils: Effect of general soil properties. *Chemosphere*, 325, 138274. <https://doi.org/10.1016/j.chemosphere.2023.138274>
 - [Environmentally relevant concentrations of boscalid exposure affects the neurobehavioral response of zebrafish by disrupting visual and nervous systems](#). Qian, L., Qi, S., Wang, Z., Magnuson, J. T., Volz, D. C., Schlenk, D., Jiang, J., & Wang, C. (2021). Environmentally relevant concentrations of boscalid exposure affects the neurobehavioral response of zebrafish by disrupting visual and nervous systems. *Journal of hazardous materials*, 404(Pt A), 124083. <https://doi.org/10.1016/j.jhazmat.2020.124083>
 - [Cardiac and neurobehavioral impairments in three phylogenetically distant aquatic model organisms exposed to environmentally relevant concentrations of boscalid](#). Bedrossiantz, J., Goyenechea, J., Prats, E., Gómez-Canela, C., Barata, C., Raldúa, D., & Cachot, J. (2024). Cardiac and neurobehavioral impairments in three phylogenetically distant aquatic model organisms exposed to environmentally relevant concentrations of boscalid. *Environmental pollution (Barking, Essex : 1987)*, 347, 123685. <https://doi.org/10.1016/j.envpol.2024.123685>
 - [Deciphering the diversity, composition, function, and network complexity of the soil microbial community after repeated exposure to a fungicide boscalid](#). Han, L., Xu, M., Kong, X., Liu, X., Wang, Q., Chen, G., Xu, K., & Nie, J. (2022). Deciphering the diversity, composition, function, and network complexity of the soil microbial community after repeated exposure to a fungicide boscalid. *Environmental pollution (Barking, Essex : 1987)*, 312, 120060. <https://doi.org/10.1016/j.envpol.2022.120060>
 - [Mitochondrial dysfunction induced in human hepatic HepG2 cells exposed to the fungicide kresoxim-methyl and to a mixture kresoxim-methyl/boscalid](#). Vandensande, Y., Carbone, M., Mathieu, B., & Gallez, B. (2024). Mitochondrial dysfunction induced in human hepatic

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- [Co-exposure to boscalid and amoxicillin inhibited the degradation of boscalid and aggravated the threat to the earthworm](#). Han, S., Sun, W., Sun, X., Yue, Y., Miao, J., Dang, X., Diao, J., Teng, M., & Zhu, W. (2024). Co-exposure to boscalid and amoxicillin inhibited the degradation of boscalid and aggravated the threat to the earthworm. Pesticide biochemistry and physiology, 203, 106022. <https://doi.org/10.1016/j.pestbp.2024.106022>
 - [Effects of Fungicide and Adjuvant Sprays on Nesting Behavior in Two Managed Solitary Bees, Osmia lignaria and Megachile rotundata](#). Artz, Derek & Pitts-Singer, Theresa. (2015). Effects of Fungicide and Adjuvant Sprays on Nesting Behavior in Two Managed Solitary Bees, Osmia lignaria and Megachile rotundata. PLoS ONE. 10. 10.1371/journal.pone.0135688.
 - [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>
 - [Pesticide residues in European agricultural soils - A hidden reality unfolded](#). Silva, Vera et al. "Pesticide residues in European agricultural soils - A hidden reality unfolded." The Science of the total environment vol. 653 (2019): 1532-1545. doi:10.1016/j.scitotenv.2018.10.441
 - [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>.
 - [Metabolic Effects of a Chronic Dietary Exposure to a Low-Dose Pesticide Cocktail in Mice: Sexual Dimorphism and Role of the Constitutive Androstane Receptor](#). Lukowicz, C., Ellero-Simatos, S., Régnier, M., Polizzi, A., Lasserre, F., Montagner, A., Lippi, Y., Jamin, E. L., Martin, J. F., Naylies, C., Canlet, C., Debrauwer, L., Bertrand-Michel, J., Al Saati, T., Théodorou, V., Loiseau, N., Mselli-Lakhal, L., Guillou, H., & Gamet-Payrastre, L. (2018). Metabolic Effects of a Chronic Dietary Exposure to a Low-Dose Pesticide Cocktail in Mice: Sexual Dimorphism and Role of the Constitutive Androstane Receptor. Environmental health perspectives, 126(6), 067007. <https://doi.org/10.1289/EHP2877>
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 - [Respiratory and allergic outcomes among farmworkers exposed to pesticides in Costa Rica](#). Rodríguez-Zamora, M. G., Fuhrimann, S., Winkler, M. S., Rosa, M. J., Reich, B., Lindh, C., & Mora, A. M. (2024). Respiratory and allergic outcomes among farmworkers exposed to pesticides in Costa Rica. The Science of the total environment, 954, 176776. <https://doi.org/10.1016/j.scitotenv.2024.176776>
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Gateway Health and Environmental Effects Citations

1. Pesticide Action Network Pesticide Database. http://www.pesticideinfo.org/Search_Chemicals.jsp.
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/opprd001/factsheets/index.htm>
3. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](http://pubchem.ncbi.nlm.nih.gov)

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