

Chemical Factsheet

Pirimiphos-methyl

General Information

- Product Names:
 - Dominator Insecticide Ear Tag** (Intervet Inc D/B/A Merck Animal Health)
 - Actellic® 5e Insecticide Low Odor Formulation** (Winfield Solutions, LLC)
 - Pirimiphos-Methyl Technical** (Winfield Solutions, LLC)
- Chemical Class: Organophosphate
- Uses: As a broad-spectrum organophosphate insecticide and acaricide, pirimiphos-methyl is primarily used post-harvest on grains (corn, sorghum, wheat, barley, oats), seeds, and peanuts, as well as in domestic/industrial areas and in cattle ear tags.
- 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: Yes (1)
- Neurotoxicity: Yes (2)
- Kidney/Liver Damage: Not documented
- Sensitizer/ Irritant: Yes (2)
- 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: Yes (3)

Additional Information

- Regulatory Status:
 - [EPA Tolerances for Residues](#)
 - [BP Comments February 2026](#)
 - [EPA Draft Human Health and Ecological Risk Assessments](#) (2016)
- Supporting information:
 - [World Health Organization Chemical Fact Sheets: Pirimiphos-methyl](#)
 - [PAN Pesticides Database: Pirimiphos-methyl](#) (Pesticide Action Network)
 - [NIH PubChem Database](#) (National Library of Medicine)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Widely Used Pesticides with Previously Unknown Endocrine Activity Revealed as in Vitro Anti-Androgens](#). Orton F, Rosivatz E, Scholze M, Kortenkamp A 2011. Environ Health Perspect. doi:10.1289/ehp.1002895
 - [Residues of pesticides and metabolites in chicken kidney, liver and muscle samples from](#)

- [poultry farms in Dar es Salaam and Pwani, Tanzania](#). Mahugija, J. A. M., Chibura, P. E., & Lugwisha, E. H. J. (2018). Residues of pesticides and metabolites in chicken kidney, liver and muscle samples from poultry farms in Dar es Salaam and Pwani, Tanzania. *Chemosphere*, 193, 869–874. <https://doi.org/10.1016/j.chemosphere.2017.11.094>
- [Hepatotoxicity of Pirimiphos-Methyl on Wistar Rats](#). Nosiri, Chidi & Stanley C., Okereke & Uche Okuu, Arunsi & Chujor, O.O. & Nwaogwugwu, Caleb. (2017). Hepatotoxicity of Pirimiphos-Methyl on Wistar Rats. *IOSR Journal of Environmental Science, Toxicology and Food Technology*. 11. 88-93. 10.9790/2402-1104018893.
 - [Effects of Pirimiphos-Methyl on Non-Target Invertebrates](#). Faly, L., & Brygadyrenko, V. (2024). Effects of Pirimiphos-Methyl on Non-Target Invertebrates. *Biology*, 13(10), 823. <https://doi.org/10.3390/biology13100823>
 - [In Vitro Evaluation of the Combined Toxicity of Pirimiphos-methyl and Piperonyl Butoxide](#). Campos, F. et al. (2025). In Vitro Evaluation of the Combined Toxicity of Pirimiphos-methyl and Piperonyl Butoxide. *Anais da Academia Brasileira de Ciencias*, 97(4), e20241526. <https://doi.org/10.1590/0001-3765202520241526>

Gateway Health and Environmental Effects Citations

1. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](#)
2. 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>.
3. Pesticide Action Network Pesticide Database. http://www.pesticideinfo.org/Search_Chemicals.jsp.

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