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.

Factsheet generated on May 3, 2026