Chemical Factsheet

Esfenvalerate

General Information

- Fact Sheet: Synthetic Pyrethroids.pdf
- Product Names:
  Asana (Du Pont)
  Tribute II (Bayer)
  Silent (Reckitt Benckiser)
- Chemical Class: Pyrethroid insecticide
- Uses: Residential and commerical lawns; agriculture including apricots, artichokes, hazelnuts, and potatoes
- Alternatives: Agriculture, Christmas trees, home and garden, mosquito repellant
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

- Cancer: Not documented
- Endocrine Disruption: Suspected (**1**)
- Reproductive Effects: Not documented
- Neurotoxicity: Yes (**2**)
- 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: Not documented
- Toxic to Fish/Aquatic Organisms: Yes (**3**)
- Toxic to Bees: Yes (**3**)

Residential Uses as Found in the ManageSafe™ Database

- Bagworms
- Cockroaches
- Bed Bugs
- Chiggers
- Fleas
- Termites
- Wasps and Yellowjackets

Additional Information

- Supporting information:
  - Daily News Blog entries (Beyond Pesticides)
  - Asthma, Children and Pesticides (Beyond Pesticides)

    - Extoxnet Esfenvalerate Factsheet (Extension Toxicology Network)
    - PAN Pesticide Database Information: Esfenvalerate (Pesticide Action Network)
    - Scorecard Esfenvalerate Factsheet (The Pollution Information Site)
- Studies [compiled from the Pesticide-Induced Diseases Database]
    - Exposure to pesticides and risk of Hodgkin lymphoma in an international consortium of agricultural cohorts (AGRICOH). Kim, J., Leon, M.E., Schinasi, L.H., Baldi, I., Lebailly, P., Freeman, L.E.B., Nordby, K.C., Ferro, G., Monnereau, A., Brouwer, M. and Kjaerheim, K., 2023. Cancer Causes & Control, pp.1-9.
    - Mixture effects of thiamethoxam and seven pesticides with different modes of action on honey bees (Aplis mellifera). Li, W. et al. (2023) Mixture effects of thiamethoxam and seven pesticides with different modes of action on honey bees (Aplis mellifera), Scientific Reports. Available at: https://www.nature.com/articles/s41598-023-29837-w#ref-CR30.
    - Honey Bee (Apis mellifera) Exposure to Pesticide Residues in Nectar and Pollen in Urban and Suburban Environments from Four Regions of the United States. Démares, F.J. et al. (2022) Honey Bee (Apis mellifera) Exposure to Pesticide Residues in Nectar and Pollen in Urban and Suburban Environments from Four Regions of the United States, Environmental Toxicology and Chemistry. Available at: https://setac.onlinelibrary.wiley.com/doi/10.1002/etc.5298.
    - Synergistic interaction between a toxicant and food stress is further exacerbated by temperature. Shahid, N., Siddique, A. and Liess, M. (2024) Synergistic interaction between a toxicant and food stress is further exacerbated by temperature, Environmental Pollution. Available at: https://www.sciencedirect.com/science/article/pii/S0269749124018268.
    - Environmental Stress Increases Synergistic Effects of Pesticide Mixtures on Daphnia magna. Shahid, N., Liess, M. and Knillmann, S. (2019) Environmental Stress Increases Synergistic Effects of Pesticide Mixtures on Daphnia magna, Environmental Science & Technology. Available at: https://pubs.acs.org/doi/10.1021/acs.est.9b04293.
    - Double trouble: The synergistic threat of environmental stressors and pesticide mixtures. Shahid, N., Siddique, A., Krauss, M., Böhme, A., Brack, W., Jahnke, A., & Liess, M. (2025). Double trouble: The synergistic threat of environmental stressors and pesticide mixtures. Journal of hazardous materials, 500, 140293. https://doi.org/10.1016/j.jhazmat.2025.140293

Gateway Health and Environmental Effects Citations

1. Illinois EPA, Endocrine Disruptors Strategy, February 1997.
https://nepis.epa.gov/Exe/ZyNET.exe/910140ZK.txt

2. US EPA, 2000. Table 1: Toxicity Data by Category for Chemicals Listed under EPCRA Section 313. Toxic Release Inventory (TRI) Program.
https://www.epa.gov/sites/production/files/documents/hazard_categories.pdf

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

Factsheet generated on June 2, 2026