Chemical Factsheet

Allethrin

(includes all allethrin stereoisomers: d-trans allethrin, bioallethrin, S-bioallethrin, d-cis/trans allethrin)

General Information

- Product Names:
  Snake (S.C. Johnson)
  Konk (AMREP) formulated with Permethrin
  Unicorn (Phaeton) formulated with Permethrin
  Spira (Zobele)
  House & Garden Bug Killer (Celex) formulated with Permentrin
  Family Mosquito (Family Products)
  Buzz Buster (Multinational Resources)
- Chemical Class: Pyrethroid
- Uses: Wasps and hornets, roaches, ants, fleas, and mosquitos, approved for residential, horticultural non food plants, commercial animal premise (indoor) misting systems
- Alternatives: Least-Toxic Insecticide
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

- Cancer: Not documented
- Endocrine Disruption: Yes (**1**)
- Reproductive Effects: Not documented
- Neurotoxicity: Yes (**2**, **3**, **4**)
- Kidney/Liver Damage: Yes (**2**)
- Sensitizer/ Irritant: Yes (**2**)
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: No (**5**)
- Toxic to Birds: No (**2**)
- Toxic to Fish/Aquatic Organisms: Yes (**2**)
- Toxic to Bees: Yes (**2**)

Residential Uses as Found in the ManageSafe™ Database

- Cockroaches
- Bed Bugs
- Mosquitoes
- Spiders

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) signed (6/2007)
  - EPA Amended RED (05/2009)
- Supporting information:
  - Extoxnet Pesticide Factsheet (Extension Toxicology Network)
  - PAN Pesticides Database: (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Mosquito repellent (pyrethroid-based) induced dysfunction of blood–brain barrier permeability in developing brain.Sinha, C et al. 2004. *International Journal of Developmental Neuroscience*
  - Morphological changes in the respiratory system of mice after inhalation of mosquito-coil smoke. Cheng V, et al. 1992. *Toxicology letters*
  - The action of allethrin on the peripheral nervous system of the frog. Joep Van Den Bercken. 1976. *Pest Management Science*
  - Allethrin toxicity causes reproductive dysfunction in male rats. Madhubabu G, Yenugu S. 2017. Environ Toxicol. 32(6):1701-1710.
  - The effect of follicullar fluid pesticides and polychlorinated biphenyls concentrations on intracytoplasmic sperm injection (ICSI) embryological and clinical outcome. Al-Hussaini, T. K., Abdelaleem, A. A., Elnashar, I., Shabaan, O. M., Mostafa, R., El-Baz, M. A. H., El-Deek, S. E. M., & Farghaly, T. A. (2018). The effect of follicullar fluid pesticides and polychlorinated biphenyls concentrations on intracytoplasmic sperm injection (ICSI) embryological and clinical outcome. European journal of obstetrics, gynecology, and reproductive biology, 220, 39–43. https://doi.org/10.1016/j.ejogrb.2017.11.003
  - Acute Toxicity Study Of D-trans Allethrin And D-phenothrin To Zebrafish, Danio Rerio And Its Human Relevance. Hamid, Alif & Muhammad, Hussin & Lee, Siew Pien & Nik Hassan, Nik F. & Lokman, Isa. (2024). Acute Toxicity Study Of D-trans Allethrin And D-phenothrin To Zebrafish, Danio Rerio And Its Human Relevance. Community practitioner: the journal of the Community Practitioners' & Health Visitors' Association. 21. 243-250.
  - Epilithic biofilms as bioindicators of water contamination by pesticides in Protected Areas from Atlantic Forest. Mollmann, V. et al. (2026) Epilithic biofilms as bioindicators of water contamination by pesticides in Protected Areas from Atlantic Forest, Science of The Total Environment. Available at: https://www.sciencedirect.com/science/article/pii/S0048969726003177.

Gateway Health and Environmental Effects Citations

1. Colborn, T., D. Dumanoski, and J.P. Myers. 1996. Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? New York: Dutton. http://ourstolenfuture.org/Basics/chemlist.htm

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. Insecticide Resistance Action Committe (IRAC) eClassification of Chemical Mode of Action http://www.irac-online.org/eClassification/

5. National Library of Medicine. PubChem Hazardous Substances Database. PubChem (nih.gov)

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