

Chemical Factsheet

Heptachlor

General Information

- Chemical Class: Organochlorine
- Uses: Insect control, including ants, termites, and soil pests.
- Alternatives: [Organic Agriculture](#)
- Beyond Pesticides rating:

Health and Environmental Effects

See citations at end of document.

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

Additional Information

- Regulatory Status:
 - [EPA RED Facts](#) (1992)
 - [EPA Factsheet](#) (2016)
- Supporting information:
 - [PAN Pesticides Database: Heptachlor](#) (Pesticide Action Network)
 - [Exttoxnet Heptachlor Factsheet](#) (Extension Toxicology Network)
 - [CDC Agency for Toxic Substances and Disease Registry](#) (2021)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Perinatal heptachlor exposure increases expression of presynaptic dopaminergic markers in mouse striatum.](#) Caudle, W.M., et al. 2005. NeuroToxicology 26(4):721-728
 - [Ecological Crisis Due to Chemical Toxicity: Addressing Soil Health for Better Human Health.](#) Thakur, J.S. and Paika, R. (2024) Ecological crisis due to chemical toxicity: Addressing soil health for better human health, Journal of Environmental Science and Public Health. Available at: <https://www.fortunejournals.com/articles/ecological-crisis-due-to-chemical-toxicity-addressing-soil-health-for-better-human-health.html>.
 - [Epidemiological study of high cancer among rural agricultural community of Punjab in Northern India.](#) Thakur, J. et al. (2008) Epidemiological study of high cancer among rural agricultural community of Punjab in Northern India, International journal of environmental

- research and public health. Available at: <https://pubmed.ncbi.nlm.nih.gov/19151435/>.
- [Exposure to pesticides, persistent and non – persistent pollutants in French 3.5-year-old children: Findings from comprehensive hair analysis in the ELFE national birth cohort.](#) Macheka, L. et al. (2024) Exposure to pesticides, persistent and non – persistent pollutants in French 3.5-year-old children: Findings from comprehensive hair analysis in the ELFE national birth cohort, Environment International. Available at: <https://www.sciencedirect.com/science/article/pii/S0160412024004677>.
 - [Herbicides and pesticides synergistically interact at low concentrations in complex mixtures.](#) Alehashem, M. et al. (2024) Herbicides and pesticides synergistically interact at low concentrations in complex mixtures, Chemosphere. Available at: <https://www.sciencedirect.com/science/article/pii/S0045653524003242?via%3Dihub>.
 - [Concentrations and spatial patterns of organic contaminants in tree swallow \(Tachycineta bicolor\) eggs at United States and binational Great Lakes Areas of Concern, 2010-2015.](#) Custer, C. M., Custer, T. W., Dummer, P. M., Goldberg, D., & Franson, J. C. (2016). Concentrations and spatial patterns of organic contaminants in tree swallow (Tachycineta bicolor) eggs at United States and binational Great Lakes Areas of Concern, 2010-2015. Environmental toxicology and chemistry, 35(12), 3071–3092. <https://doi.org/10.1002/etc.3496>
 - [An Environment-Wide Association Study \(EWAS\) on Type 2 Diabetes Mellitus.](#) Patel CJ, et al. 2010. PLoS ONE 5(5): e10746.
 - [Incident Diabetes and Pesticide Exposure among Licensed Pesticide Applicators: Agricultural Health Study, 1993–2003.](#) Montgomery et al. American Journal of Epidemiology 2008 167(10):1235-1246
 - [Bioaccumulation of pesticide contaminants in tissue matrices of dogs suffering from malignant canine mammary tumors in Punjab, India.](#) Gautam, S., Sood, N. K., Gupta, K., Joshi, C., Gill, K. K., Kaur, R., & Chauhan, I. (2020). Bioaccumulation of pesticide contaminants in tissue matrices of dogs suffering from malignant canine mammary tumors in Punjab, India. Heliyon, 6(10), e05274. <https://doi.org/10.1016/j.heliyon.2020.e05274>
 - [Levels and patterns of organochlorine pesticides and their degradation products in rainwater in Kibaha Coast Region, Tanzania.](#) Mahugija, J. A., Henkelmann, B., & Schramm, K. W. (2015). Levels and patterns of organochlorine pesticides and their degradation products in rainwater in Kibaha Coast Region, Tanzania. Chemosphere, 118, 12–19. <https://doi.org/10.1016/j.chemosphere.2014.05.051>
 - [Incident diabetes and pesticide exposure among licensed pesticide applicators: Agricultural Health Study, 1993-2003.](#) Montgomery, M. P., Kamel, F., Saldana, T. M., Alavanja, M. C., & Sandler, D. P. (2008). Incident diabetes and pesticide exposure among licensed pesticide applicators: Agricultural Health Study, 1993-2003. American journal of epidemiology, 167(10), 1235–1246. <https://doi.org/10.1093/aje/kwn028>

Gateway Health and Environmental Effects Citations

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

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