

Chemical Factsheet

Hexachlorobenzene

General Information

- Uses: Hexachlorobenzene was previously used as a pesticide, fungicide, and wood preservative, and in the production of synthetic rubber, dyes, and pyrotechnic materials. While not approved for use anymore, it is now primarily a byproduct of other chemical manufacturing processes.
- Alternatives: [Organic Agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Yes (1)
- Endocrine Disruption: Not documented
- Reproductive Effects: Yes (1)
- Neurotoxicity: Yes (1)
- Kidney/Liver Damage: Yes (1)
- Sensitizer/ Irritant: Yes (1)
- Birth/Developmental: Yes (1)
- 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 Technical Factsheet on Hexachlorobenzene \(HCB\)](#)
 - [EPA Hazard Summary \(2000\)](#)
- Supporting information:
 - [PAN Pesticides Database: Hexachlorobenzene](#) (Pesticide Action Network)
 - [Extension Toxicology Network Pesticide Profile](#)
 - [CDC Toxic Substances Portal](#)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Chronic kidney disease from agricultural communities—association and accumulation of hexachlorobenzene, malathion, and parathion pesticides](#). Verma, J. et al. (2024) Chronic kidney disease from agricultural communities-association and accumulation of hexachlorobenzene, malathion, and parathion pesticides, Toxicology and Environmental Health Sciences. Available at: <https://link.springer.com/article/10.1007/s13530-024-00222-y>.
 - [Status of pesticides pollution in Tanzania – A review](#). Elibariki, R., & Maguta, M. M. (2017). Status of pesticides pollution in Tanzania - A review. Chemosphere, 178, 154-164. <https://doi.org/10.1016/j.chemosphere.2017.03.036>
 - [Currently used and legacy pesticides in the marine atmosphere from Patagonia to Europe](#).

- Debler, F., Gandrass, J., Paul Ramacher, M. O., Koenig, A. M., Zimmermann, S., & Joerss, H. (2025). Currently used and legacy pesticides in the marine atmosphere from Patagonia to Europe. *Environmental pollution (Barking, Essex : 1987)*, 373, 126175. Advance online publication. <https://doi.org/10.1016/j.envpol.2025.126175>
- [The potential endocrine-disrupting of fluorinated pesticides and molecular mechanism of EDPs in cell models](#). Liu, Y. et al. (2025) The potential endocrine-disrupting of fluorinated pesticides and molecular mechanism of EDPs in cell models, *Ecotoxicology and Environmental Safety*. Available at: <https://www.sciencedirect.com/science/article/pii/S0147651324016919>.
 - [The mode of action of different organochlorine pesticides families in mammals](#). Baratzhanova, G. et al. (2024) The mode of action of different organochlorine pesticides families in mammals, *Environmental Toxicology and Pharmacology*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1382668924001546?via%3Dihub>.
 - [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>.
 - [Persistent organic pollutants and the size of ovarian reserve in reproductive-aged women](#). Björvang, R.D., Hassan, J., Stefopoulou, M., Gemzell-Danielsson, K., Pedrelli, M., Kiviranta, H., Rantakokko, P., Ruokojärvi, P., Lindh, C.H., Acharya, G. and Damdimopoulou, P. *Environment International*, 155, p.106589.
 - [Correlates of organochlorine pesticide plasma concentrations among reproductive-aged black women](#). Orta, O.R., Wesselink, A.K., Bethea, T.N., Henn, B.C., Sjödin, A., Wegienka, G., Baird, D.D. and Wise, L.A., 2020. *Environmental Research*, p.109352.
 - [Airborne Pesticides from Agricultural Practices: A Critical Review of Pathways, Influencing Factors, and Human Health Implications](#). Boonupara, T., Udomkun, P., Khan, E., & Kajitvichyanukul, P. (2023). *Airborne Pesticides from Agricultural Practices: A Critical Review of Pathways, Influencing Factors, and Human Health Implications*. *Toxics*, 11(10), 858. <https://doi.org/10.3390/toxics11100858>
 - [Relationship between agrochemical compounds and mammary gland development and breast cancer](#). Kass, L., Gomez, A. L., & Altamirano, G. A. (2020). Relationship between agrochemical compounds and mammary gland development and breast cancer. *Molecular and cellular endocrinology*, 508, 110789. <https://doi.org/10.1016/j.mce.2020.110789>
 - [Pesticides in the atmosphere and seawater in a transect study from the Western Pacific to the Southern Ocean: The importance of continental discharges and air-seawater exchange](#). Zhang, X., Zhang, X., Zhang, Z. F., Yang, P. F., Li, Y. F., Cai, M., & Kallenborn, R. (2022). Pesticides in the atmosphere and seawater in a transect study from the Western Pacific to the Southern Ocean: The importance of continental discharges and air-seawater exchange. *Water research*, 217, 118439. <https://doi.org/10.1016/j.watres.2022.118439>
 - [Pesticides in ambient air, influenced by surrounding land use and weather, pose a potential threat to biodiversity and humans](#). Zaller, J. G., Kruse-Platz, M., Schlechtriemen, U., Gruber, E., Peer, M., Nadeem, I., Formayer, H., Hutter, H. P., & Landler, L. (2022). Pesticides in ambient air, influenced by surrounding land use and weather, pose a potential threat to biodiversity and humans. *The Science of the total environment*, 838(Pt 2), 156012. <https://doi.org/10.1016/j.scitotenv.2022.156012>
 - [Atmospheric Deposition of Organochlorine Pesticides and Industrial Compounds to Seasonal Surface Snow at Four Glacier Sites on Svalbard, 2013–2014](#). Hermanson, M. H., Isaksson, E., Hann, R., Teixeira, C., & Muir, D. C. G. (2020). Atmospheric Deposition of Organochlorine Pesticides and Industrial Compounds to Seasonal Surface Snow at Four

Glacier Sites on Svalbard, 2013-2014. Environmental science & technology, 54(15), 9265-9273. <https://doi.org/10.1021/acs.est.0c01537>

Gateway Health and Environmental Effects Citations

1. Agency for Toxic Substances and Disease Registry. ToxFAQs. <http://www.atsdr.cdc.gov/toxfaqs/index.asp>.
2. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](https://pubchem.ncbi.nlm.nih.gov/)

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