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 mammalians. Baratzhanova, G. et al. (2024) The mode of action of different organochlorine pesticides families in mammalians, 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-Plaß, 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)

Factsheet generated on July 7, 2026