CAS 608-93-5 Pentachlorobenzene C₆HCl₅





Summary of Health Effects

Pentachlorobenzene can interfere with how hormones are made and how they work in the bodies of animals.

How is pentachlorobenzene used?

Pentachlorobenzene has been used as a pesticide, fungicide and flame retardant.¹ It also may be produced during manufacturing processes or as a contaminant of pesticides.²

Toxicity: What are its health effects?

In a National Toxicology Program study on rats and mice, the kidney, liver and thyroid gland were the organs most affected by pentachlorobenzene.³

The European Union classified pentachlorobenzene as a category 1 endocrine disruptor.⁴ When pentachlorobenzene breaks down into pentachlorophenol in the body, it disturbs the self-regulating processes of retinoid and thyroid hormones in rats.³

Exposure: How can a person come in contact with it?

A person can come in contact with pentachlorobenzene by breathing in

contaminated air, eating contaminated food, drinking contaminated water, or from skin contact.^{1,2}

Pentachlorobenzene was used as a pesticide, fungicide, and as a flame retardant.¹ Today, exposure may occur through its use as a chemical created during manufacturing processes, or as a contaminant in pesticides.²

Pentachlorobenzene was placed on the Persistent Organic Pollutant (POP) list at the Stockholm Convention under Annex A and C, which means that parties must take measures to eliminate the production and use and reduce unintentional releases.¹

Pentachlorobenzene is listed on Washington state's list of Persistant Bioaccumulative Toxic's (PBT) (WAC 173-333-310).⁵

The 2014 National Health and Nutrition Examination Survey (NHANES) report did not include data for pentachlorobenzene.

References

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- DenBesten, C., Bennik, M.H., Bruggeman, I., Schielen, P., Kuper, F., Brouwer, A., Koeman, J.H.,...Van Bladeren, P.J. (1993). The role of oxidative metabolism in hexachlorobenzene-induced porphyria and thyroid hormone homeostasis: A comparison with pentachlorobenzene in a 13-week feeding study. *Toxicology and Applied Pharmacology*, 119, 181-194. Retrieved from www.ncbi.nlm.nih.gov/pubmed/8480328
- 3. U.S. Department of Health and Human Services, National Toxicology Program (1991). *Toxicity studies of pentachlorobenzene in F344/N rats and B6C3F*¹ *mice (feed studies)* (NIH Publication No. 91-3125). Retrieved from <u>ntp.niehs.nih.gov/ntp/htdocs/st_rpts/tox006.pdf</u>
- 4. European Commission DG Environment (2002). *Endocrine disruptors: study on gathering information on 435* substances with insufficient data (Final report B4-3040/2001/325850/MAR/C2). Retrieved from ec.europa.eu/environment/chemicals/endocrine/pdf/bkh_report.pdf
- 5. WA Department of Ecology PBT Initiative. *The PBT list*. Retrieved November 9, 2018, from <u>apps.leg.wa.gov/WAC/default.aspx?cite=173-333-310</u>