

CAS 608-93-5

Substance name Pentachlorobenzene

Toxicity

Pentachlorobenzene has been classified as a Category 1 endocrine disruptor by the European Union.¹ In rats, levels of thyroid hormones (T3 and T4) in plasma were decreased after intraperitoneal injection or dietary ingestion of pentachlorobenzene.^{2,3}

Exposure

Pentachlorobenzene is on the Washington state list of PBTs as being persistent, bioaccumulative and toxic (WAC 173-333-310).⁴ Evidence that pentachlorobenzene is found in children's products was not located. Its use as a fungicide and as a flame retardant were cancelled in U.S. by the early 1980s. The fungicide PCNB (of which pentachlorobenzene is an impurity and a metabolite), was cancelled by the U.S. EPA for residential, school, and golf course uses in 2009.⁵ PCNB is still used agriculturally.

References

1. 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.
2. den Besten, C, Vet, JJ, Besselink, HT, Kiel, GS, van Berkel, BJ, Beems, R, and van Bladeren, PJ. (1991). The liver, kidney, and thyroid toxicity of chlorinated benzenes. *Toxicol Appl Pharmacol 111(1)*: 69-81.
3. den Besten, C, Bennik, MH, Bruggeman, I, Schielen, P, Kuper, F, Brouwer, A, Koeman, JH, Vos, JG, and van Bladeren, PJ. (1993). The role of oxidative metabolism in hexachlorobenzene-induced porphyria and thyroid hormone homeostasis: a comparison with pentachlorobenzene in a 13-week feeding study. *Toxicol Appl Pharmacol 119*: 181-194.
4. WA Department of Ecology. Summary of Technical Background Information for the Proposed PBT List (Revised Draft) October 2005.
5. U.S. EPA Pentachloronitrobenzene (PCNB) Amendments to Terminate Uses. Federal Register: July 15, 2009 (Volume 74, Number 134) Page 34337-34339.