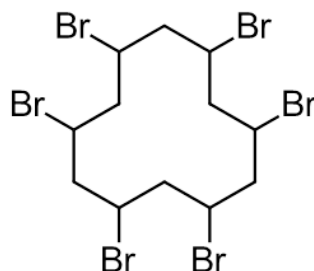


Hexabromocyclododecane (HBCD)

$C_{12}H_{18}Br_6$



Summary of Health Effects

Hexabromocyclododecane (HBCD) can affect how human babies develop and affect how the thyroid system works in animals.

How is HBCD used?

HBCD is used as a flame retardant in polystyrene foam, textiles, upholstery, draperies, wallcoverings, wires, cables and electronic appliances.¹

HBCD's use as a flame retardant in rigid polystyrene foam makes up more than 95% of the HBCD applications.²

Toxicity: What are its health effects?

In the EPA's former Design for the Environment (now Safer Choice) program's evaluation of flame retardant alternatives, HBCD was classified as a high hazard for developmental human effects and environmental fate, and a very high hazard for acute and chronic aquatic toxicity and environmental bioaccumulation.²

Repeated exposures in rats resulted in effects on the thyroid system.¹

HBCD is on Washington State's Persistent Bioaccumulative Toxic (PBT) list.³

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

A person can come in contact with HBCD by breathing in contaminated air or dust, eating contaminated food, drinking contaminated water, and from skin contact with consumer products. Children may also be exposed to HBCD through hand-to-mouth contact with house dust or other surfaces.^{1,2}

HBCD has been found to accumulate in fat tissue, muscle, and the liver of animals.³ It has been detected in breast milk and may be passed on to breastfeeding infants.¹

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

References

1. U.S. Environmental Protection Agency (2010). *Hexabromocyclododecane (HBCD) action plan*. Retrieved from www.epa.gov/sites/production/files/2015-09/documents/rin2070-az10_hbcd_action_plan_final_2010-08-09.pdf

2. U.S. Environmental Protection Agency (2014). *Design for the environment; Flame retardant alternatives for hexabromocyclododecane (HBCD)*. Retrieved from www.epa.gov/sites/production/files/2014-06/documents/hbcd_report.pdf
3. Department of Ecology – State of Washington. *The PBT list*. Retrieved November 9, 2018, from apps.leg.wa.gov/WAC/default.aspx?cite=173-333-310