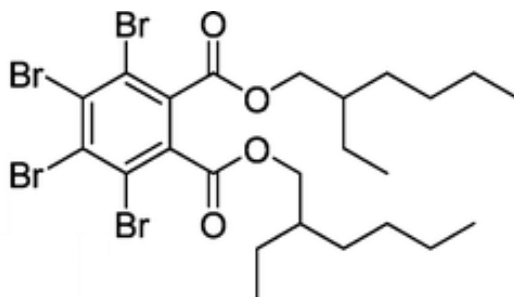


CAS 26040-51-7

Bis(2-ethylhexyl) tetrabromophthalate (TBPH)

$C_{24}H_{34}Br_4O_4$



Summary of Health Effects

TBPH may cause problems with development and harm the reproductive system based on animal studies on pregnant rodents and their offspring.

How is TBPH used?

TBPH is a component of the widely used fire-retardant mixture Firemaster 550 (FM 550).¹ TBPH is also a component of the commercial fire-retardant mixture DP 45.² TBPH is used as a flame retardant in flexible polyurethane foam, neoprene, rubber, appliances, and construction and electrical materials.³ A 2011 study detected TBPH or TBB in various children's products including car seats, changing table pads, portable mattresses and rocking chairs.⁴

Toxicity: What are its health effects?

TBPH is characterized by the U.S. Environmental Protection Agency (EPA) as a moderate hazard for developmental, reproductive, neurological, and repeated-dose exposures based on toxicity in rodent studies to TBPH-containing flame retardant mixtures and structural chemical analogs.¹ TBPH was added to EPA's 2014 Toxic Substance Control Act work plan due to developmental, acute and chronic toxicity, and moderate environmental persistence and bioaccumulation potential.⁵ Pregnant rats fed a commercial mixture containing TBPH had altered thyroid function

and offspring with significantly increased weights. Also, early puberty occurred in female pups and male pups had significantly increased left ventricular thickness and blood glucose levels.⁶

Fetuses of pregnant rats fed the TBPH metabolite, TBMEHP, for two days had liver damage and males had a significantly increased number of altered seminiferous cords per cord area.²

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

A person may come in contact with TBPH by breathing it in, eating, or skin contact with contaminated dust, or skin contact with TBPH-containing consumer products. EPA characterized TBPH as a high hazard for persistence and bioaccumulation based on half-life and the detection of TBPH in various species from upper levels of the food chain.¹

TBPH has been detected in outdoor air, residential and non-residential indoor dust, car dust, sewage sludge and in marine mammals.⁷⁻¹¹

In a 2010-2011 Northern California study, TBPH was detected in all the indoor dust samples gathered from childcare centers.⁷

A 2008-2009 study detected TBPH in the blood serum and breast milk of women residing in Québec, Canada.¹² A 2014 study in Indiana also found TBPH in the blood serum of adults.¹³

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