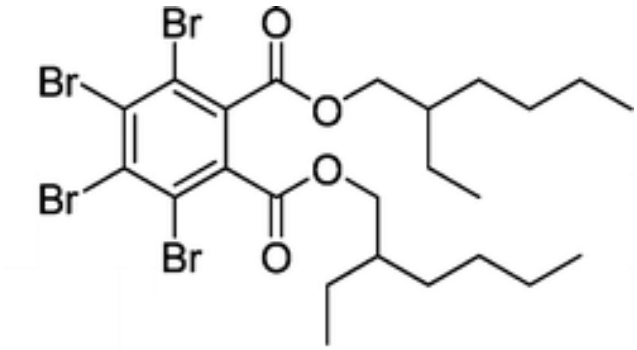

26040-51-7 Bis(2-ethylhexyl) tetrabromophthalate (TBPH)

Toxicity

TBPH is classified by the 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 analogs.[1]

TBPH was added to the 2014 Toxic Substance Control Act work plan due to developmental, acute and chronic toxicity, and moderate environmental persistence and bioaccumulation potential.[2]

Patisaul et al. 2013 observed altered thyroid function in pregnant rats fed a commercial mixture containing TBPH, and significantly increased weights in offspring. Also, early puberty in female pups and significantly increased left ventricular thickness and blood glucose levels in male pups was noted.[3]

Springer et al. 2012, found liver damage and a significantly increased number of altered seminiferous cords per cord area in the fetuses of pregnant rats orally exposed for 2 days to the TBPH metabolite, TBMEHP.[4]

Exposure

TBPH is used as a flame retardant in flexible polyurethane foam, neoprene, rubber, appliances, and construction and electrical materials.[5]

A 2011 study by Stapleton et al. detected TBPH or TBB in various children's products including car seats, changing table pads, portable mattresses and rocking chairs.[6]

EPA classified TBPH as a high hazard for persistence and bioaccumulation based on half-life and the detection 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 serum and breast milk of women residing in Québec, Canada.[11] A 2014 study in Indiana also found TBPH in the serum of adults.[13]

Other

TPBH is a component of the widely used fire-retardant mixture Firemaster 550 (FM 550).[1] TBPH is also a component of the commercial mixture DP 45.[4]

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