



CAS 183658-27-7 - 2-ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)

Toxicity

Due to the observed toxicity of mixtures containing 2-ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB) and that of a closely related analog, the EPA has classified TBB as a moderate hazard for neurological, developmental, reproductive and repeated dose toxicities.¹

Patisaul et al. 2013 observed altered thyroid function in pregnant rats orally exposed to a commercial mixture containing TBB, 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.²

Exposure

TBB has been used as a substitute ingredient for PBDEs in flexible polyurethane foam. These materials are typically found in consumer products such as upholstered furniture, auto cushions, and baby products, and persist in products containing recycled polyurethane foam.^{3,4,5}

Metabolites of TBB have been detected in the breast milk of women living in Quebec, Canada from 2009-2010 and in the urine mother-toddler pairs from California and New Jersey.^{6,7}

Indoor dust was sampled from 39 childcare facilities in Northern California and TBB was detected in 100% of the samples.⁸

TBB has also been detected in dust collected from college dormitories in New England.⁹

Studies have found increased levels of TBB on hand wipe samples taken from U.S. collegiate gymnasts after practice as compared to before.¹⁰

TBB was detected in all dust samples and 95% of the handwipe samples gathered from New York City homes of children and mothers.¹¹

A 2014 Indiana biomonitoring study detected TBB in the blood, hair, and nails of adults.¹²

TBB 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.¹³

Other

TBB and TBPH make up about 50% of the widely-used flame retardant mixture Firemaster 550. TPP and IPTPP are also components of Firemaster 550.¹

References

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