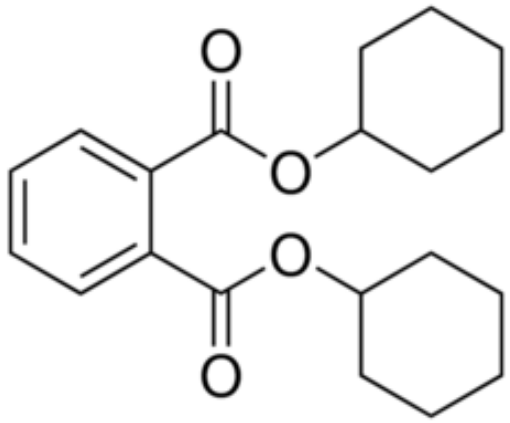

CAS 84-61-7 - Dicyclohexyl phthalate (DCHP)

Toxicity

The European Union lists DCHP as a Category 1 endocrine disruptor.[1]

DCHP is considered to potentially produce adverse reproductive effects, as evidenced in animals, and is designated as a reproductive toxicant by the U.S. Consumer Product Safety Commission. The Chronic Hazard Advisory Panel (CHAP) determined exposure to DCHP contributes to a cumulative antiandrogenic effect with other phthalates and should be permanently banned in children's toys and child care articles at levels greater than 0.1 percent.[2] In 2017 the CPSC permanently banned DCHP in children's toys and childcare articles at levels greater than 0.1 percent.[3]

In prepubertal rats fed DCHP, a significant increase in serum testosterone levels and a decrease in testis weights was observed.[4]

Li *et al*. 2016 observed significantly inhibited testicular testosterone levels in rats from *in utero* exposure.[5] Offspring of rats fed DCHP displayed retarded growth, significantly decreased fetal weight, and hindered ossification and increased incidence of skeletal variants. In all doses, male fetuses showed a significant dose-related reduction in anogenital distance.[6]

A 2005 study observed significantly increased liver and thyroid weights, increased number of hyaline droplets in the renal proximal tubular epithelium, decreased prostatic weight and diffuse or focal atrophy of testicular seminiferous tubules in male offspring of rats fed DCHP for 10 weeks. A significant decrease in homogenization-resistant spermatids occurred in the testes for male rat offspring. A significant reduction in anogenital distance and the appearance of areolae was observed in male offspring.[7]

Exposure

DCHP has been detected in indoor air and dust in Tokyo, Japan and Norway.[8,9]

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DCHP has been detected in food in the UK. [10,11] It was detected in alcoholic and non-alcoholic commercial beverages in a 2016 study.[11] DCHP, among other phthalates, has been detected in over-the-counter medicines in China.[12] DCHP has been detected in consumer products such as perfume, soap, pajamas and modeling clay.[13]

A metabolite of DCHP, monocyclohexyl phthalate (MCHP), has been detected in American adults through biomonitoring studies including 1999-2000 National Health and Nutrition Examination Survey (NHANES) data.[14-18]

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