

CAS 131-55-5

**Substance name** Benzophenone-2 (also called 2,2,4,4-tetrahydroxybenzophenone)

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### Toxicity

Benzophenone-2 has been classified as a Category 1 endocrine disruptor by the European Union.<sup>1</sup> It has shown estrogenic activity in rat uterotrophic assays<sup>2</sup>. Studies in mice<sup>3</sup> and rats<sup>4</sup> demonstrated dose dependent estrogenic effects.

### Exposure

The Danish EPA identified benzophenone-2 as a listed ingredient in 2 of 208 children's personal care products in the mapping study of cosmetics marketed to children.<sup>5</sup>

### References

1. European Commission DG Environment (2002). Endocrine disruptors: study on gathering information on 435 substances with insufficient data. Final report B4-3040/2001/325850/MAR/C2.
2. Koda, T, Umezu, T, Kamata, R, Morohoshi, K, Ohta, T, and Morita, M. (2005). Uterotrophic effects of benzophenone derivatives and a p-hydroxybenzoate used in ultraviolet screens. *Environ Res* 98(1): 40 – 5.
3. Hsieh, MH, Grantham, EC, Liu, B, Macapagal, R, Willingham, E, and Baskin, LS. (2007) In utero exposure to benzophenone-2 causes hypospadias through an estrogen receptor dependent mechanism. *Journal of Urology* 178(4 Pt 2): 1637-42.
4. Jarry, H, Christoffel, J, Rimoldi, G, Koch, L, and Wuttke, W. (2004). Multi-organic endocrine disrupting activity of the UV screen benzophenone 2 (BP2) in ovariectomized adult rats after 5 days treatment. *Toxicology* 205(1-2): 87-93.
5. Danish Ministry of the Environment, Environmental Protection Agency. Survey of Chemical Substances in Consumer Products, Report 88, 2007. [http://www.mst.dk/English/Chemicals/Consumer\\_Products/Surveys-on-chemicals-in-consumer-products.htm](http://www.mst.dk/English/Chemicals/Consumer_Products/Surveys-on-chemicals-in-consumer-products.htm)