

CAS 25013-16-5

Substance name Butylated hydroxyanisole (BHA)

Toxicity

Butylated hydroxyanisole (BHA) is classified as a carcinogen by authoritative sources.^{1,2,3} Oral exposures induced cancers of the forestomach in rats and mice.^{1,2} BHA is also listed as a Class 1 endocrine disruptor by the European Union.⁴ Their classification is based on evidence of disruption of androgen and thyroid hormonal systems in a number of *in vitro* and *in vivo* tests. In a rat reproduction study, BHA increased relative organ weights of liver, kidney, adrenal gland and thyroid gland; decreased the mating rate; resulted in less males being born; shortened anogenital distances in male offspring; lengthened the time to vaginal patency and preputial separation in female offspring; and had measurable effects on sperm.⁵

Exposure

BHA is used primarily as a antioxidant and preservative in food, food packaging, cosmetics, pharmaceuticals, and in rubber and petroleum products.^{1,2} BHA was reported in many cosmetics in a large survey of use in consumer products.² The highest concentrations were in lipsticks and eye shadows. BHA is listed as an ingredient in baby scalp spray-on sunscreen, diaper rash ointments, and baby oil in an online cosmetics database.⁶ It has also been reported in chewing gum samples.²

References

1. U.S. DHHS, PHS, National Toxicology Program. Report on Carcinogens, Eleventh Edition. 2005. <http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s027bha.pdf>.
2. WHO, International Agency for Research on Cancer. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Supplement No 7: Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42. 1987.
3. California Office of Environmental Health Hazard Assessment. List of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Feb 5, 2010. http://www.oehha.org/prop65/prop65_list/files/P65single020510.pdf
4. 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.
5. Jeong S; Kim B; Kim S; Cho J; Kim O (2003). Steroid and thyroid hormonal receptor gene transcription assay and one-generation reproduction study of butylated hydroxyanisole. *Toxicologist* 2003 Mar; 72(S-1):284.
6. Environmental Working Group. Skin Deep Cosmetic Safety Database. Accessed May 2010. <http://www.cosmeticsdatabase.com/>.