

1-Bromopropane
C₃H₇Br
[CAS No. 106-94-5]
Reproductive toxicant: Group 2

There are no reports that have shown clear evidence of the reproductive toxicity of 1-bromopropane (1-BP) in humans. Some studies have reported that exposure to 1-BP induced disruption of the menstrual cycle and increased the level of follicle stimulating hormone in female workers; however, these reports were considered to be insufficient evidence because the numbers of cases were too small and the confounding factors and dose-response relationships were not fully considered^{1,2)}. On the other hand, many animal studies have shown the reproductive toxicity of 1-BP in both sexes, including adverse effects on reproductive organs, fetal malformation, and reduced fertility³⁻⁶⁾. Based on this evidence, 1-bromopropane is classified as a Group 2 reproductive toxicant.

References

- 1) Ichihara G, Miller J, Ziolkowska A, et al. Neurological disorders in three workers exposed to 1-bromopropane. *J Occup Health* 2002; 44: 1-7.
- 2) Li W, Shibata E, Zhou Z, et al. Dose-dependent neurologic abnormalities in workers exposed to 1-bromopropane. *J Occup Environ Med* 2010; 52: 769-77.
- 3) Ichihara G, Yu X, Kitoh J, et al. Reproductive toxicity of 1-bromopropane, a newly introduced alternative to ozone layer depleting solvents, in male rats. *Toxicol Sci* 2000; 54: 416-23.
- 4) Yamada T, Ichihara G, Wang H, et al. Exposure to 1-bromopropane causes ovarian dysfunction in rats. *Toxicol Sci* 2003; 71: 96-103.
- 5) Liu F, Ichihara G, Mohideen SS, et al. Comparative study on susceptibility to 1-bromopropane in three mice strains. *Toxicol Sci* 2009; 112: 100-10.
- 6) CERHR. NTP-CERHR Monograph on the Potential Human Reproductive and Developmental Effects of 1-Bromopropane. National Toxicology Program. NTP-CHRHR-1-BP. October 2003.