References

In this guide

This is a paper for discussion. This does not represent the views of the Committee and should not be cited.

Agency for Toxic Substances and Disease Registry (ATSDR) (2010) Toxicological profile for Boron. U.S. Department of Health and Human Services, Public Health Service, Atlanta, GA. ATSDR Boron Tox Profile

Allen, B.C., Strong, P.L., Price, C.J., Hubbard, S.A. and Daston, G.P., 1996. Benchmark dose analysis of developmental toxicity in rats exposed to boric acid. Fundamental and Applied Toxicology, 32(2), pp.194-204.

Chapin, R. E., Ku, W. W., Kenney, M. A., McCoy, H., Gladen, B., Wine, R. N., Wilson, R. and Elwell, M. R., 1997. The effects of dietary boron on bone strength in rats. Fundamental and Applied Toxicology, 35, pp.205–215.

Chapin, R.E., Ku, W.W., Kenney, M.A. and McCoy, H., 1998. The effects of dietary boric acid on bone strength in rats. Biological Trace Element Research, 66, pp.395-399.

COT (Committee on Toxicity) (1995) Annual report: Boron in drinking water and food. p. 6. cotannualreport1995.pdf

Coughlin, J.R., 1996. Inorganic borates: Chemistry, human exposure, and health and regulatory guidelines. The Journal of Trace Elements in Experimental Medicine: The Official Publication of the International Society for Trace Element Research in Humans, 9(4), pp.137-151.

Dixon R.L., Lee I.P. and Sherins R.J., 1976. Methods to assess reproductive effects of environmental chemicals: studies of cadmium and boron administered orally. Environmental Health Perspectives, 13, pp.59-67.

Dixon R.L., Sherins R.J. and Lee I.P., 1979. Assessment of environmental factors affecting male fertility. Environmental Health Perspectives, 30, pp.53-68.

Dourson, M., Maier, A., Meek, B., Renwick, A., Ohanian, E., Poirier, K. (1998) Re-evaluation of toxicokinetics for data-derived uncertainty factors. Biological Trace Element Research 66, 453-463.

ECETOC, 1995. Reproductive and general toxicology of some inorganic borates and risk assessment for human beings (Technical Report No. 63).

EFSA Panel on Food Additives and Nutrient Sources added to Food (ANS), 2013. Scientific Opinion on the re-evaluation of boric acid (E 284) and sodium tetraborate (borax) (E 285) as food additives. EFSA Journal, 11(10), p.3407. Scientific Opinion on the re-evaluation of boric acid (E 284) and sodium tetraborate (borax) (E 285) as food additives - - 2013 - EFSA Journal - Wiley Online Library

EVM, 2003. Boron – in Safe Upper Levels for Vitamins and Minerals pages 164-171. vitmin2003.pdf

Fail, P. A., George, J. D., Seely, J. C., Grizzle, T. B. and Heindel, J. J., 1991. Reproductive toxicity of boric acid in Swiss (CD-1) mice: Assessment using the continuous breeding protocol. Fundamental and Applied Toxicology, 17, pp.225–239.

Forbes, R.M., Cooper, A.R. and Mitchell, H.H., 1954. On the occurrence of beryllium, boron, cobalt, and mercury in human tissues.

Harris, M. W., Chapin, R. E., Lockhart, A. C. and Jokinen, M. P., 1992. Assessment of a short-term reproductive and developmental toxicity screen. Fundamental and Applied Toxicology, 19, pp.186–196.

Health Canada (2023) Boron: Guidelines for drinking water quality. Health Canada, Ottawa. Guidelines for Canadian drinking water quality boron: Overview - Canada.ca

Heindel, J.J., Price, C.J., Field, E.A., Marr, M.C., Myers, C.B., Morrissey, R.E. and Schwetz, B.A., 1992. Developmental toxicity of boric acid in mice and rats. Fundamental and applied toxicology, 18(2), pp.266-277. Developmental toxicity of boric acid in mice and rats - ScienceDirect

IPCS, 2009. Principles and methods for the risk assessment of chemicals in food. Environmental Health Criteria 240, Principles and methods for the risk assessment of chemicals in food (EHC 240, 2009)

Ku, W. W., Chapin, R. E., Wine, R. N. and Gladen, B. C., 1993. Testicular toxicity of boric acid (BA): Relationship of dose to lesion development and recovery in the F344 rat. Reproductive Toxicology, 7, pp.305–319.

Lee, I. P., Sherins, R. J. and Dixon, R. L., 1978. Evidence for induction of germinal aplasia in male rats by environmental exposure to boron. Toxicology and Applied Pharmacology, 45, pp.577–590.

Murray, F.J., 1998. A comparative review of the pharmacokinetics of boric acid in rodents and humans. Biological trace element research, 66, pp.331-341.

Pahl, M.V., Culver, B.D., Strong, P.L., Murray, F.J. and Vaziri, N.D., 2001. The effect of pregnancy on renal clearance of boron in humans: a study based on normal dietary intake of boron. Toxicological Sciences, 60(2), pp.252-256.

Price, C. J., M. C. Marr, and C. B. Myers. "Determination of the No-Observable-Adverse-Effect Level (NOAEL) for Developmental Toxicity in Sprague-Dawley (CD) Rats Exposed to Boric Acid in Feed on Gestational Days 0 to 20, and Evaluation of Postnatal Recovery through Postnatal Day 21." Research Triangle Park (NC): Research Triangle Institute (RTI Identification No. 65C-5657-20O) (1994).

Price, C.J., Strong, P.L., Marr, M.C., Myers, C.B. and Murray, F.J., 1996. Developmental toxicity NOAEL and postnatal recovery in rats fed boric acid during gestation. Fundamental and applied toxicology, 32(2), pp.179-193. Developmental Toxicity NOAEL and Postnatal Recovery in Rats Fed Boric Acid during Gestation - ScienceDirect

Sabuncuoglu, B. T., Kocaturk, P. A., Yaman, O., Kavas, G. O., and Tekelioglu, M., 2006. Effects of subacute boric acid administration on rat kidney tissue. Clinical

Toxicology, 44(3), pp.249–253.

Seal, B. S. and Weeth, H. J., 1980. Effect of boron in drinking water on the male laboratory rat. Bulletin of Environmental Contamination and Toxicology, 25, pp.782–789.

Settimi, L., Elovaara, E. and Savolainen, H., 1982. Effects of extended peroral borate ingestion on rat liver and brain. Toxicology Letters, 10, pp.219–223.

US EPA, 2008. Health effects support document for boron. Health and Ecological Criteria Division. US Environmental Protection Agency, Washington, DC.

Weir Jr, R.J. and Fisher, R.S., 1972. Toxicologic studies on borax and boric acid. Toxicology and applied pharmacology, 23(3), pp.351-364. Toxicologic studies on borax and boric acid - ScienceDirect

WHO, 1993. Boron – in Guidelines for drinking-water quality, 2nd edition: Volume 1 – Recommendations page 43-44. https://www.who.int/publications/i/item/924154460O

WHO, 2009. Boron in drinking-water: Background document for development of WHO Guidelines for Drinking-water Quality (No. WHO/HSE/WSH/09.01/2). World Health Organization. Microsoft Word - Fourth Edition Boron Final January 2010.doc

Yoshizaki, H., Izumi, Y., Hirayama, C., Fujimoto, A., Kandori, H., Sugitani, T., and Ooshima, Y., 1999. Availability of sperm examination for male reproductive toxicities in rats treated with boric acid. The Journal of Toxicological Sciences, 24(3), pp.199–.