

Deriving a health-based guidance value for antimony to support development of UK Drinking Water Standards

HBGV's established by the WHO, ATSDR and Health Canada

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World Health Organization (WHO)

31. In 2003, WHO derived a tolerable daily intake (TDI) for antimony of 6.0 µg/kg bw/day (WHO, 2003). This was based on the findings of Poon et al., 1998 with a modified approach in interpreting the NOAEL of the study as suggested by Lynch et al., (1999).

32. WHO selected a NOAEL of 6,000 µg Sb/kg bw/day for decreased body weight gain and reduced food and water intake. An uncertainty factor of 1,000 (100 for interspecies and intraspecies differences and 10 for the short duration of the study) was applied to the NOAEL resulting in the TDI of 6.0 µg/kg bw/day.

33. The TDI of 6.0 µg Sb/kg bw/day was used to derive the WHO drinking water guideline value by, allowing an allocation to water of 10% of the TDI and assuming a 60 kg adult consumes 2L of water per day. The resultant drinking water guideline value of 20 µg/L and is derived to be protective for lifetime exposure. The WHO states that this could be highly conservative, due to the nature of the endpoints selected and the large uncertainty factor applied in the derivation of this TDI (WHO, 2022).