

Conclusions

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206. Mercury is a metal that is released into the environment from both natural and anthropogenic sources. Mercury bioaccumulates in fish as methylmercury (MeHg), especially in long-lived predatory species such as swordfish and tuna. Populations that consume large quantities of foods derived from fish are more vulnerable to mercury exposure. Food sources other than fish and seafood products may contain mercury, but mostly in the form of inorganic mercury.

207. After oral intake in humans, MeHg is more extensively and rapidly absorbed than inorganic mercury. MeHg can enter the hair follicle, cross the placental, blood-brain and blood-cerebrospinal fluid barriers, allowing accumulation in hair, the fetus and the brain, respectively. Inorganic mercury in food is considerably less toxic than MeHg due to its low lipophilicity hence it does not readily cross the same fluid barriers.

208. The main adverse effect associated with MeHg exposure is toxicity to the central and peripheral nervous systems. Due to MeHg's ability to cross barriers, exposure during embryonic neurodevelopment and in young children is of high concern. Thus, pregnant and breastfeeding women are sensitive sub-populations.

209. The most recent HBGVs derived for mercury were calculated by EFSA in 2012 to determine whether the earlier JECFA derived values were still appropriate. EFSA derived a lower TWI for MeHg of 1.3 µg/kg bw (JECFA TWI was 1.6 µg/kg bw) and a TWI for inorganic mercury of 4 µg/kg bw (identical to the JECFA TWI).

210. The high individual and aggregate exposure assessments to mercury from food, water, soil and air all estimated exposures below the EFSA TWI for MeHg and inorganic mercury. Therefore, for the UK population there is low risk to women of maternal age and their fetuses.