



## Arsenic

 Previous Question

Level 3 Questions

### 9. What have WHO and IARC established about arsenic?

The source document for this Digest states:

Previous evaluations by international bodies"

Arsenic and arsenic compounds were evaluated by the International Agency for Research on Cancer (IARC, 1973) and the evaluation updated in supplement 7 (IARC, 1987). There was sufficient evidence for carcinogenicity to humans and limited evidence for carcinogenicity to animals, and the overall evaluation was that arsenic and arsenic compounds are carcinogenic to humans (Group 1). This evaluation applies to the group of chemicals (i.e. arsenic and arsenic compounds) as a whole and not necessarily to all individual chemicals within the group.

The World Health Organization has given a provisional guideline value of 10 µg/litre for arsenic in drinking-water as the practical quantification limit (WHO, 1996). The World Health Organization (WHO, 2000) has estimated that the unit risk for arsenic-induced lung cancer (risk estimate for lifetime exposure to a concentration of 1 µg/m<sup>3</sup>) is 1.5 × 10<sup>-3</sup>.

Source & ©: [IPCS "Environmental Health Criteria for Arsenic and Arsenic compounds"](#), 

EHC 224, Chapter 12: previous evaluations by international bodies

Basis of guideline derivation

There remains considerable uncertainty over the actual risks at low concentrations, and available data on mode of action do not provide a biological basis for using either linear or non-linear extrapolation. In view of the significant uncertainties surrounding the risk assessment for arsenic carcinogenicity, the practical quantification limit in the region of 1–10 µg/litre and the practical difficulties in removing arsenic from drinking-water, a guideline value of 10 µg/litre is retained. In view of the scientific uncertainties, the guideline value is designated as provisional.

Source & ©: [WHO](#) The most recent update of the WHO drinking-water guideline information

["Guidelines for drinking-water quality - 3rd edition. \(2003\)".](#)

Chapter 12 Chemical fact sheets, 12.8 Arsenic, subsection on the Basis of guideline derivation

 Previous Question

Level 3 Questions

21-2-2015 Copyright © GreenFacts 2001–2015 GreenFacts® is a registered trademark of Cogeneris sprl. Design: Morris & Chapman