HISTORIES OF GUIDELINE DEVELOPMENT FOR THE FOURTH EDITION

12. Chemical fact sheets

12.1 Chemical contaminants in drinking-water

Selenium

History of guideline development

The 1958 WHO *International Standards for Drinking-water* recommended a maximum allowable concentration of 0.05 mg/l for selenium, based on health concerns. In the 1963 International Standards, this value was lowered to 0.01 mg/l, which was retained in the 1971 International Standards as a tentative upper concentration limit, while recognizing that selenium is an essential trace element for some species. In the first edition of the *Guidelines for Drinking-water Quality*, published in 1984, the guideline value of 0.01 mg/l was retained, although it was noted that in areas of relatively higher or lower selenium dietary intake, the guideline value may have to be modified accordingly. The 1993 Guidelines proposed a health-based guideline value of 0.01 mg/l on the basis of human studies. This guideline value was brought forward to the third edition of the Guidelines, published in 2004. In the fourth edition of the Guidelines, published in 2011, a provisional guideline value of 0.04 mg/l was established for selenium, with the provisional designation based on uncertainties inherent in the scientific database. It was noted that a drinking-water guideline for selenium would be unnecessary for most Member States and that achieving a proper balance between recommended intakes and undesirable intakes was essential.