12. Chemical fact sheets

12.1 Chemical contaminants in drinking-water

Manganese

History of guideline development
The 1958 WHO International Standards for Drinking-water suggested that concentrations of manganese greater than 0.5 mg/l would markedly impair the potability of the water. The 1963 and 1971 International Standards retained this value as a maximum allowable or permissible concentration. In the first edition of the Guidelines for Drinking-water Quality, published in 1984, a guideline value of 0.1 mg/l was established for manganese, based on its staining properties. The 1993 Guidelines concluded that although no single study is suitable for use in calculating a guideline value, the weight of evidence from actual daily intake and toxicity studies in laboratory animals given manganese in drinking-water supports the view that a provisional health-based guideline value of 0.5 mg/l should be adequate to protect public health. It was also noted that concentrations below 0.1 mg/l are usually acceptable to consumers, although this may vary with local circumstances. The third edition of the Guidelines, published in 2004, established a guideline value of 0.4 mg/l for manganese. The fourth edition of the Guidelines, published in 2011, concluded that as the calculated health-based value is well above concentrations of manganese normally found in drinking-water, it was not necessary to derive a formal guideline value.