

## HISTORIES OF GUIDELINE DEVELOPMENT FOR THE FOURTH EDITION

### 12. Chemical fact sheets

#### 12.1 Chemical contaminants in drinking-water

##### Sulfate

##### ***History of guideline development***

The 1958 WHO *International Standards for Drinking-water* suggested that concentrations of sulfate greater than 400 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. The first two editions of the International Standards also suggested that concentrations of magnesium plus sodium sulfate in excess of 1000 mg/l would markedly impair drinking-water potability. In the first edition of the *Guidelines for Drinking-water Quality*, published in 1984, a guideline value of 400 mg/l for sulfate was established, based on taste considerations. No health-based guideline value for sulfate was proposed in the 1993 Guidelines. However, because of the gastrointestinal effects resulting from ingestion of drinking-water containing high sulfate levels, it was recommended that health authorities be notified of sources of drinking-water that contain sulfate concentrations in excess of 500 mg/l. The presence of sulfate in drinking-water may also cause noticeable taste at concentrations above 250 mg/l and may contribute to the corrosion of distribution systems. This assessment was brought forward to the third edition of the Guidelines, published in 2004, and the fourth edition of the Guidelines, published in 2011.