



## Determination of gross alpha and beta activity concentrations in drinking waters in Bursa region of north-western Turkey

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### ABSTRACT

This study intends to radiologically assess the drinking waters from Bursa province of north-western Turkey. Using gross-alpha and gross-beta counting methods, the gross-alpha activity concentrations of 43 drinking water samples were measured as 68.5 mBq dm<sup>-3</sup> in the range 13–629 mBq dm<sup>-3</sup>. The gross-beta activity concentrations were determined as 67.1 mBq dm<sup>-3</sup> in the range 12–455 mBq dm<sup>-3</sup>. These values lead to average annual effective doses of 14 µSv from alpha emitters and 33.8 µSv from beta emitting radionuclides and are found to be much lower than those recommended for drinking waters by World Health Organization (WHO).

*Keywords:* Radioactivity; Effective dose; Gross alpha; Gross beta; Water; Bursa

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