

Determination of Radon Gas Activity Level in Unpacked Drinking Water from Different Locations in Albania

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Abstract

In many countries, groundwater is the primary source of drinking water. As these waters remain in constant contact with rocks, the presence of high uranium concentrations can lead to the release of radon gas, which then dissolves into the water. While radon exposure through inhalation poses a greater risk than ingestion, raising awareness among national authorities and the public about the potential health hazards of radon in drinking water is crucial. According to Decision No. 957 of the Council of Ministers, dated December 2, 2015, the regulation "On the Guideline Levels of Radon Concentration in Indoor Environments and Radionuclide Concentrations in Consumer Goods" sets a reference level of 100 Bq/L for radon concentration in water intended for public consumption (Article 6, Point 2). However, Albania currently lacks a systematic monitoring plan for radon levels in water samples.

This study aims to determine the activity levels of radon gas in unpackaged drinking water, one of the most consumed water sources in Albania. Water samples from various natural sources across different regions of the country were analysed, with each sample undergoing two parallel measurements. The results indicate that the radon concentration levels in all unpackaged drinking water samples remained within the reference limit of 100 Bq/L.

Keywords: radon gas, drinking water, Rn-222, unpackaged drinking water

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