

## SCHEDULE 3

## Sampling and analysis

## PART 3

## Monitoring for indicative dose and analytical performance characteristics

**Performance characteristics and methods of analysis**

9. For the following parameters and radionuclides, the method of analysis used must, as a minimum, be capable of measuring activity concentrations with a limit of detection specified below—

<i>Parameters and radionuclides</i>	<i>Limit of detection (Notes 1,2)</i>	<i>Notes</i>
Tritium	10 Bq/l	Note 3
Radon	10 Bq/l	Note 3
gross alpha	0,04 Bq/l	Note 4
gross beta	0,4 Bq/l	Note 4
U-238	0,02 Bq/l	
U-234	0,02 Bq/l	
Ra-226	0,04 Bq/l	
Ra-228	0,02 Bq/l	Note 5
Pb-210	0,02 Bq/l	
Po-210	0,01 Bq/l	
C-14	20 Bq/l	
Sr-90	0,4 Bq/l	
Pu-239/Pu-240	0,04 Bq/l	
Am-241	0,06 Bq/l	
Co-60	0,5 Bq/l	
Cs-134	0,5 Bq/l	
Cs-137	0,5 Bq/l	
I-131	0,5 Bq/l	

Note 1: The limit of detection must be calculated according to the ISO standard 11929: Determination of the characteristic limits (decision threshold, detection limit, and limits of confidence interval) for measurements of ionising radiation – Fundamentals and application, with probabilities of errors of 1st and 2nd kind of 0,05 each(1).

(1) A copy may be obtained at [www.iso.org](http://www.iso.org) or from the Drinking Water Inspectorate, Area 7E, 9 Millbank, c/o Nobel House, 17 Smith Square, London, SW1P 3JR.

**Status:** This is the original version (as it was originally made).

Note 2: Measurement uncertainties must be calculated and reported as complete standard uncertainties, or as expanded uncertainties with an expansion factor of 1,96 according the ISO Guide for the Expression of Uncertainty in Measurement<sup>(2)</sup>.

Note 3: The limit of detection for tritium and for radon is 10% of its parametric value of 100 Bq/l.

Note 4: The limit of detection for gross alpha activity and gross beta activities are 40% of the screening values of 0,1 and 1,0 Bq/l respectively.

Note 5: This limit of detection applies only to initial screening for ID for a new water source; if initial checking indicates that it is not plausible that Ra-228 exceeds 20% of the derived concentration, the limit of detection may be increased to 0,08 Bq/l for routine Ra-228 nuclide specific measurements, until a subsequent re-check is required.

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(2) See previous footnote.