

SCHEDULE 1

Regulations 4, 9 and 11

Prescribed concentrations or values

PART 1

Wholesomeness

Table A**MICROBIOLOGICAL PARAMETERS****Prescribed concentrations or values**

<i>Parameters</i>	<i>Maximum concentration or value</i>	<i>Units of measurement</i>
<i>[F¹E. coli]</i>	0	Number/100ml
Enterococci	0	Number/100ml
In the case of water in bottles or containers:		
Colony count 22°C	100	Number/ml
F2	F2	F2
...
<i>[F¹E. coli]</i>	0	Number/250ml
Enterococci	0	Number/250ml
<i>Pseudomonas aeruginosa</i>	0	Number/250ml

Textual Amendments

- F1** Words in Sch. 1 Pt. 1 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(9)(a)(ii)** (with reg. 3)
- F2** Words in Sch. 1 Pt. 1 omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(9)(a)(i)** (with reg. 3)

Table B**CHEMICAL PARAMETERS****Part I: Directive requirements - prescribed concentration or values**

<i>Parameters</i>	<i>Maximum concentration or value</i>	<i>Units of measurement</i>
Acrylamide ¹	0.10	µg/l
Antimony	5.0	µg/l
Arsenic	10	µg/l
Benzene	1.0	µg/l
Benzo(a)pyrene	0.010	µg/l

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

Boron	1.0	mg/l
Bromate	10	µg/l
Cadmium	5.0	µg/l
Chromium	50	µg/l
Copper	2.0	mg/l
Cyanide	50	µg/l
1, 2 dichloroethane	3.0	µg/l
Epichlorohydrin ¹	0.10	µg/l
Fluoride	1.5	mg/l
Lead	10	µg/l
Mercury	1.0	µg/l
Nickel	20	µg/l
Nitrate ²	50	mg/l
Nitrite ²	0.5 (or 0.1 in the case of treatment works)	mg/l
Pesticides ³ —		
Aldrin	0.030	µg/l
Dieldrin	0.030	µg/l
Heptachlor	0.030	µg/l
Heptachlor epoxide	0.030	µg/l
Other pesticides	0.10	µg/l
Pesticides total ⁴	0.50	µg/l
Polycyclic aromatic hydrocarbons ⁵	0.10	µg/l
Selenium	10	µg/l
Tetrachloroethene and Trichloroethene ⁶	10	µg/l
Trihalomethanes: Total ⁷	100	µg/l
Vinyl chloride ¹	0.50	µg/l

Part II: National requirements – prescribed concentrations or values

<i>Parameters</i>	<i>Maximum concentration or value</i>	<i>Units of measurement</i>
Aluminium	200	µg/l
Colour	20	mg/l Pt/Co
Iron	200	µg/l

Manganese	50	µg/l
Odour	Acceptable to consumers and no abnormal change	
Sodium	200	mg/l
Taste	Acceptable to consumers and no abnormal change	
Tetrachloromethane	3	µg/l
Turbidity	4	NTU

¹ The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water. This is controlled by product specification.

² See also the nitrate-nitrite formula in regulation 4(c).

³ For these purposes, “pesticides” means—

For these purposes, “pesticides” means—

- organic acaricides;
- organic algicides;
- organic fungicide;
- organic herbicides;
- organic insecticides;
- organic nematocides;
- organic rodenticides;
- organic slimicides;
- related products (inter alia, growth regulators and their relevant metabolites, degradation and reaction products). Only those pesticides likely to be present in a given supply need be monitored.

⁴ “Pesticides total” means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring process.

⁵ The specified compounds are—

The specified compounds are—

- benzo(b)fluoranthene;
- benzo(k)fluoranthene;
- benzo(ghi)perylene;
- indeno(1,2,3-cd)pyrene.

The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

⁶ The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

⁷ The specified compounds are—

The specified compounds are—

- bromodichloromethane;
- bromoform;
- chloroform;
- dibromochloromethane

The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

PART 2

Indicator parameters (excluding radioactive substances)

Table C

Prescribed concentrations, values or states

<i>Parameters</i>	<i>Maximum concentration or value or state (unless otherwise stated)</i>	<i>Units of measurement</i>
Ammonium	0.50	mg/l
Chloride ¹	250	mg/l
<i>Clostridium perfringens</i> (including spores)	0	Number/100ml
Coliform bacteria	0	Number/100ml (Number/250 ml in the case of water put into bottles of containers)
	F3	F4

Colony counts	No abnormal change	Number/ml at [F522°C]
Conductivity ¹	2500	µS/cm at 20°C
Hydrogen ion	9.5 (maximum) 6.5 (minimum) (in the case of still water put into bottles or containers the minimum is 4.5)	pH value pH value
Sulphate ¹	250	mg/l
Total organic carbon (TOC)	No abnormal change	mgC/l
Turbidity ²	1	NTU

¹ The water should not be aggressive.

² Only in the case of surface water or groundwater that has been influenced by surface water.

Textual Amendments

- F3** Words in Sch. 1 Pt. 2 omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), [2\(9\)\(b\)\(i\)\(aa\)](#) (with reg. 3)
- F4** Words in Sch. 1 Pt. 2 omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), [2\(9\)\(b\)\(i\)\(bb\)](#) (with reg. 3)
- F5** Word in Sch. 1 Pt. 2 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), [2\(9\)\(b\)\(ii\)](#) (with reg. 3)

PART 3

Indicator parameters (radioactive substances)

Table D

Parametric values for indicative does, radon and tritium of water intended for human consumption

<i>Parameters</i>	<i>Maximum concentration or value or state (unless otherwise stated)</i>	<i>Units of measurements</i>
Indicative dose (for radioactivity) ¹	0.10	mSv
Gross alpha	0.1	Bq/l
Gross beta	1.0	Bq/l
Radon ²	100	Bq/l
Tritium (for radioactivity) ³	100	Bq/l

¹ Where treatment to reduce the level of radionuclides in water intended for human consumption has been taken, monitoring must be carried out under Part 1 of Schedule 2 to ensure the continued efficacy of the treatment.

² Enforcement action by a local authority is deemed justified on radiological protection grounds without further consideration where radon concentrates exceed 1,000 Bq/l.

³ If tritium concentration exceeds its parametric value, an investigation (which may include analysis) of the presence of artificial radionuclides must be carried out.

SCHEDULE 2

Regulation 9

Monitoring

[^{F6}PART 1

Monitoring for Group A parameters

Textual Amendments

F6 Sch. 2 Pts. 1-2A substituted for Sch. 2 Pts. 1-2 (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(10)(a)** (with reg. 3)

Monitoring for Group A parameters

1.—(1) A local authority must monitor for a Group A parameter in accordance with this Part and Part 2A.

(2) In this Schedule, “monitoring for a Group A parameter” means sampling for each parameter listed in Column 1 of Table 1 in the circumstances listed in the entry which corresponds with that parameter in Column 2 of Table 1 in order to—

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

- (a) determine whether or not the water complies with the concentrations or values in Schedule 1;
- (b) provide information on the organoleptic and microbiological quality of the water; and
- (c) establish the effectiveness of the treatment of the water, including disinfection.

Table 1

Group A parameters

<i>Parameter</i>	<i>Circumstances</i>
Aluminium	Where used as a water treatment chemical or where the water originates from, or is influenced by, surface waters
Ammonium	Where chloramination is practised
Coliform bacteria	In all supplies
Colony counts 22°C	In all supplies
Colour	In all supplies
Conductivity	In all supplies
<i>E. coli</i>	In all supplies
Hydrogen ion	In all supplies
Iron	Where used as a water treatment chemical or where the water originates from, or is influenced by, surface waters
Manganese	Where the water originates from, or is influenced by, surface waters
Nitrate	Where chloramination is practised
Nitrite	Where chloramination is practised
Odour	In all supplies
Taste	In all supplies
Turbidity	In all supplies

Frequency of sampling for Group A parameters

2. Monitoring for a Group A parameter must be undertaken at the frequencies specified in Table 2.

Table 2

Sampling frequency for Group A parameters

<i>Volume m³/day</i>	<i>Sampling frequency per year</i>
≤ 10	1
> 10 ≤ 100	2

<i>Volume m³/day</i>	<i>Sampling frequency per year</i>
> 100 ≤ 1,000	4
> 1,000 ≤ 2,000	10
> 2,000 ≤ 3,000	13
> 3,000 ≤ 4,000	16
> 4,000 ≤ 5,000	19
> 5,000 ≤ 6,000	22
> 6,000 ≤ 7,000	25
> 7,000 ≤ 8,000	28
> 8,000 ≤ 9,000	31
> 9,000 ≤ 10,000	34
> 10,000	4 + 3 for each 1,000m ³ /day of the total volume (rounding up to the nearest multiple of 1,000m ³ /day)

PART 2

Monitoring for Group B parameters

Monitoring for Group B parameters

3.—(1) A local authority must monitor for a Group B parameter in accordance with this Part and Part 2A.

(2) In this Schedule, “monitoring for a Group B parameter” means sampling for each parameter listed in Parts 1 and 2 of Schedule 1 (other than Group A parameters already being sampled under Part 1 of this Schedule)—

- (a) in order to provide information necessary to determine whether or not the private water supply satisfies each concentration, value or state prescribed in those Parts of that Schedule; and
- (b) if disinfection is used, in order to check that disinfection by-products are kept as low as possible without compromising the effectiveness of disinfection.

Frequency of sampling for Group B parameters

4. Monitoring for a Group B parameter must be undertaken at the frequencies specified in Table 3.

Table 3

Sampling frequencies for a Group B parameter

<i>Volume m³/day</i>	<i>Sampling frequency per year</i>
≤ 10	1
> 10 ≤ 3,300	2

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

<i>Volume m³/day</i>	<i>Sampling frequency per year</i>
> 3,300 ≤ 6,600	3
> 6,600 ≤ 10,000	4
> 10,000 ≤ 100,000	3 + 1 for each 10,000m ³ /day of the total volume (rounding up to the nearest multiple of 10,000m ³ /day)
> 100,000	12 + 1 for each 25,000m ³ /day of the total volume (rounding up to the nearest multiple of 25,000m ³ /day)

PART 2A

Variation of monitoring for Group A and Group B parameters

Variation of monitoring requirements

5.—(1) When monitoring for a Group A or Group B parameter, a local authority may reduce the sampling frequency in respect of any parameter in Group A or Group B other than *E. coli* provided that—

- (a) the results from samples taken in respect of that parameter collected at regular intervals over a period of at least three years are all at less than 60% of the parametric value;
- (b) the results of a risk assessment described in regulation 6(1) are considered, and that risk assessment indicates that no factor can be reasonably anticipated to be likely to cause deterioration of the quality of the water;
- (c) data collected in the course of discharging its monitoring obligations under this Part are taken into account; and
- (d) at least one sample is taken per year.

(2) A local authority may cease to monitor for a Group A or Group B parameter other than *E. coli* provided that—

- (a) the results from samples taken in respect of that parameter collected at regular intervals over a period of at least three years are all at less than 30% of the parametric value;
- (b) the results of a risk assessment described in regulation 6(1) are considered, and that risk assessment indicates that no factor can be reasonably anticipated to be likely to cause deterioration of the quality of the water; and
- (c) data collected in the course of discharging its monitoring obligations under this Part are taken into account.

(3) A local authority may set a higher frequency for any parameter if it considers it appropriate, taking into account the findings of any risk assessment, and may monitor anything else identified in the risk assessment.]

PART 3

Minimum frequency for [^{F7}Monitoring Group A and Group B Parameters] for water put into bottles or containers not intended for sale

Textual Amendments

- F7** Words in Sch. 2 Pt. 3 heading substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(10)(b)(i)** (with reg. 3)

<i>Volume¹ of water produced in bottles or containers each day (m³)</i>	<i>[^{F8}Number of samples to be taken per year when monitoring for a Group A parameter]</i>	<i>[^{F9}Number of samples to be taken per year when monitoring for a Group B parameter]</i>
≤10	1	1
>10≤ 60	12	1
>60	1 for each 5m ³ /day of the total volume (rounding up to the nearest multiple of 5m ³ /day)	1 for each 100 m ³ /day of the total volume (rounding up to the nearest multiple of 100 m ³ /day)

¹ The volumes are calculated as averages taken over a calendar year.

Textual Amendments

- F8** Words in Sch. 2 Pt. 3 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(10)(b)(ii)(aa)** (with reg. 3)
- F9** Words in Sch. 2 Pt. 3 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(10)(b)(ii)(bb)** (with reg. 3)

SCHEDULE 3

Regulation 12

Sampling and analysis

PART 1

General

[^{F10}Samples: general

1.—(1) A local authority must secure, so far as reasonably practicable, that when it takes, handles, transports, stores or analyses any sample required to be taken for the purposes of this Schedule, or causes any such sample to be taken, handled, transported, stored or analysed, it complies with the appropriate requirements.

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

(2) A local authority must secure that a person accredited by the United Kingdom Accreditation Service checks from time to time the local authority’s compliance with the appropriate requirements.

(3) Additionally, when undertaking activity described in sub-paragraph (1) the local authority must demonstrate compliance with the following standards—

- (a) as regards any such activity, other than analysing samples, on or after 11th July 2020, European standard EN ISO/IEC 17024 entitled “*Conformity Assessment. General requirements for bodies operating certification of persons*”, European standard EN ISO/IEC 17025 entitled “*General requirements for the competence of testing and calibration laboratories*” or other equivalent standards accepted at international level;
- (b) as regards the activity of analysing samples, European standard EN ISO/IEC 17025 or another equivalent standard accepted at international level.

(4) In this paragraph, “appropriate requirements” means such of the following as are applicable—

- (a) the sample is representative of the quality of the water at the time of sampling;
- (b) the person taking the sample is doing so in accordance with a system of quality control to an appropriate standard;
- (c) the sample is not contaminated in the course of being taken;
- (d) the sample is kept at such a temperature and in such conditions as will secure that there is no material alteration of the concentration or value for the measurement or observation of which the sample is intended;
- (e) the sample is analysed whether at the time and place it is taken or as soon as reasonably practicable after it is taken—
 - (i) by or under the supervision of a person who is competent to perform that task, and
 - (i) with the use of such equipment as is suitable for the purpose.]

Textual Amendments

F10 Sch. 3 Pt. 1 para. 1 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(a)** (with reg. 3)

Analysing samples

2.—(1) A local authority must ensure that each sample is analysed in accordance with this paragraph.

(2) For each parameter specified in the first column of Table 1 in Part 2 of this Schedule, the method of analysis is specified in the second column of that Table.

^{F11}(3)

^{F12}(4)

(5) The method of analysis used for odour and taste parameters must be capable of measuring values equal to the parametric value with a precision [^{F13}or uncertainty of measurement] of 1 dilution number at 25°C.

[^{F14}(6) For the parameters set out in Table 3 in Part 2 of this Schedule, the specified performance characteristics are that the method of analysis used must be capable of measuring concentrations equal to the parametric value with a limit of quantification, as defined in Article 2(2) of Commission [Directive 2009/90/EC](#) laying down technical specifications for chemical analysis and monitoring of water status, of 30% or less of the relevant parametric value and an uncertainty of measurement as specified in that Table.

(7) The result must be expressed using at least the same number of significant figures as for the parametric value quoted and in the same units laid down in these Regulations.

(8) The uncertainty of measurement laid down in Table 3 in Part 2 of this Schedule must not be used as an additional tolerance to the parametric values set out in Schedule 1.]

Textual Amendments

- F11** Sch. 3 Pt. 1 para. 2(3) omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(b)(i)** (with reg. 3)
- F12** Sch. 3 Pt. 1 para. 2(4) omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(b)(i)** (with reg. 3)
- F13** Words in Sch. 3 Pt. 1 para. 2(5) inserted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(b)(ii)** (with reg. 3)
- F14** Sch. 3 Pt. 1 para. 2(6)-(8) substituted for Sch. 3 Pt. 1 para. 2(6) (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(b)(iii)** (with reg. 3)

Authorisation of alternative methods of analysis

3.—(1) The Secretary of State may authorise a method different from that set out in paragraph 2(2) if satisfied that it is at least as reliable.

(2) An authorisation may be time-limited and may be revoked at any time.

Sampling and analysis by persons other than local authorities

4.—(1) A local authority may enter into an arrangement for any person to take and analyse samples on its behalf.

(2) A local authority must not enter into an arrangement under sub-paragraph (1) unless—

- (a) it is satisfied that the task will be carried out promptly by a person competent to perform it, and
- (b) it has made arrangements that ensure that any breach of these Regulations is communicated to it immediately, and any other result is communicated to it within 28 days.

PART 2

Analytical methods

Table 1

Prescribed methods of analysis

<i>Parameter</i>	<i>Method</i>
Clostridium perfringens (including spores)	[^{F15} BS-EN ISO 14189]
Coliform bacteria and [^{F16} <i>E. coli</i>]	BS-EN ISO 9308-1 and BS-EN ISO 9308-2
Colony count 22°C-enumeration of culturable microorganisms	BS-EN ISO 6222
Colony count 37°C-enumeration of culturable microorganisms	BS-EN ISO 6222

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

Enterococci

BS-EN ISO 7899-2

Pseudomonas aeruginosa

[^{F17}BS-EN ISO 16266]

Textual Amendments

- F15** Words in Sch. 3 Pt. 2 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(c)(i)** (with reg. 3)
- F16** Words in Sch. 3 Pt. 2 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(c)(ii)** (with reg. 3)
- F17** Words in Sch. 3 Pt. 2 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(c)(iii)** (with reg. 3)

F18

Textual Amendments

- F18** Sch. 3 Pt. 2 unnumbered table omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(d)(i)** (with reg. 3)

F19

Textual Amendments

- F19** Sch. 3 Pt. 2 Table 2 omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(d)(ii)** (with reg. 3)

[^{F20}Table 3

Minimum performance characteristic: uncertainty of measurement

<i>Parameters</i>	<i>Uncertainty of measurement % of the parametric value (except for pH) ⁽¹⁾</i>
Aluminium	25
Ammonium	40
Antimony	40
Arsenic	30
Benzene	40
Benzo(a)pyrene ⁽²⁾	50
Boron	25
Bromate	40
Cadmium	25
Chloride	15
Chromium	30

<i>Parameters</i>	<i>Uncertainty of measurement % of the parametric value (except for pH) ⁽¹⁾</i>
Colour	20
Conductivity	20
Copper	25
Cyanide ⁽³⁾	30
1,2-dichloroethane	40
Fluoride	20
Hydrogen ion concentration pH (expressed in pH units)	0.2
Iron	30
Lead	25
Manganese	30
Mercury	30
Nickel	25
Nitrate	15
Nitrite	20
Oxidisability ⁽⁴⁾	50
Pesticides ⁽⁵⁾	30
Polycyclic aromatic hydrocarbons ⁽⁶⁾	50
Selenium	40
Sodium	15
Sulphate	15
Tetracloroethene ⁽⁷⁾	30
Tetracloromethane	30
Trichloroethene ⁽⁷⁾	40
Trihalomethanes: total ⁽⁶⁾	40
Total organic carbon ⁽⁸⁾	30
Turbidity ⁽⁹⁾	30

(1) “Uncertainty of measurement” is a non-negative parameter characterising the dispersion of the quantity values being attributed to a measurement, based on the information used. The performance criterion for measurement uncertainty (k = 2) is the percentage of the parametric value stated in the table or better. Measurement uncertainty must be estimated at the level of the parametric value.

(2) If the value of uncertainty of measurement cannot be met, the best available technique must be selected (up to 60% of the parametric value).

(3) The method determines total cyanide in all forms.

(4) Reference method: European standard EN ISO 8467 entitled “*Water quality - Determination of permanganate index (ISO 8467:1993)*”.

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

- (5) The performance characteristics for individual pesticides are given as an indication. Values for the uncertainty of measurement as low as 30% can be achieved for several pesticides, higher values up to 80% may be allowed for a number of pesticides.
- (6) The performance characteristics apply to individual substances, specified at 25% of the parametric value in Part 1 of Table B in Part 1 of Schedule 1.
- (7) The performance characteristics apply to individual substances, specified at 50% of the parametric value in Part 1 of Table B in Part 1 of Schedule 1.
- (8) The uncertainty of measurement must be estimated at the level of 3 mg/l of the total organic carbon (TOC) in accordance with European standard EN 1484 entitled “*Water analysis - Guidelines for the determination of total organic carbon and dissolved organic carbon*” and dissolved organic carbon (DOC) must be used.
- (9) The uncertainty of measurement must be estimated at the level of 1.0 nephelometric turbidity units (NTU) in accordance with European standard EN ISO 7027-1 entitled “*Water quality - Determination of turbidity - Part 1: Quantitative methods (ISO 7027-1:2016)*”.

Textual Amendments

F20 Sch. 3 Pt. 2 Table 3 inserted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(e)** (with reg. 3)

PART 3

Monitoring for indicative dose and analytical performance characteristics

Monitoring for compliance with the ID

5.—(1) A local authority may use various reliable screening strategies to indicate the presence of radioactivity in water intended for human consumption.

- (2) These strategies may include screening for—
 - (a) certain radionuclides, or screening for an individual radionuclide;
 - (b) gross alpha activity or gross beta activity screening.

Screening for certain radionuclides, or screening for an individual radionuclide

6.—(1) If one of the activity concentrations exceeds 20% of the corresponding derived value or the tritium concentration exceeds its parametric value specified in the radioactive parameters table, an analysis of additional radionuclides is required.

(2) A local authority must take into account, in deciding which radionuclides are required to be measured for each supply, all relevant information about likely sources of radioactivity.

Screening strategies for gross alpha activity and gross beta activity

- 7.—(1) Subject to paragraph 6(1), the recommended screening values are—
 - (a) 0.1 Bq/l for gross alpha activity, and
 - (b) 1.0 Bq/l for gross beta activity ^{M1}.

(2) If the gross alpha activity exceeds 0.1 Bq/l or the gross beta activity exceeds 1.0 Bq/l, analysis for specific radionuclides is required.

(3) The Secretary of State may set alternative screening levels for gross alpha activity and gross beta activity where it is demonstrated by the local authority that the alternative levels are in compliance with an ID of 0,1 mSv.

(4) The determination by the local authority of which radionuclides to measure must be based on all relevant information about likely sources of radioactivity.

Marginal Citations

M1 Where appropriate, gross beta activity may be replaced by residual beta activity after subtraction of the K-40 activity concentration.

Calculation of the ID

8.—(1) The ID must be calculated from—

- (a) the measured radionuclide concentrations and the dose coefficients [²¹F referred to as “standard values and relationships” in Article 13, and recommended for the estimation of doses from internal exposure in the definition of “standard values and relationships” in Article 4(96), of Council Directive 2013/59/Euratom laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, or]
- (b) more recent information recognised by the Secretary of State, on the basis of the annual intake of water (730 litres for adults).

(2) Where the following formula is satisfied, it can be assumed that the ID is less than the parametric value of 0,1mSv and no further investigation is required—

$$\sum_{i=1}^n \frac{C_i(\text{obs})}{C_i(\text{der})} \leq 1$$

Where—

“*C_i(obs)*” means the observed concentration of radionuclide *I*;

“*C_i(der)*” means the derived concentration of radionuclide *I*;

“*n*” means the number of radionuclides detected.

Derived concentrations for radioactivity in water intend for human consumption ^{M2}

<i>Origin</i>	<i>Nuclide</i>	<i>Derived concentration</i>
Natural	U-238 ¹	3,0 Bq/1
	U-234 ¹	2,8 Bq/1
	Ra-226	0,5 Bq/1
	Ra-228	0,2 Bq/1
	Pb-210	0,2 Bq/1
	Po-210	0,1 Bq/1
Artificial	C-14	240 Bq/1
	Sr-90	4,9 Bq/1

¹ This Table allows only for the radiological properties of uranium, not for its chemical toxicity.

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

Pu-239/Pu-240	0,6 Bq/l
Am-241	0,7 Bq/l
Co-60	40 Bq/l
Cs-134	7,2 Bq/l
Cs-137	11 Bq/l
1-131	6,2 Bq/l

¹ This Table allows only for the radiological properties of uranium, not for its chemical toxicity.

Textual Amendments

F21 Words in Sch. 3 Pt. 3 para. 8(1)(a) substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(11)(f)** (with reg. 3)

Marginal Citations

M2 This Table includes values for the most common natural and artificial radionuclides; these are precise values, calculated for a dose of 0,1 mSv, an annual intake of 730 litres and using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom. Derived concentrations for other radionuclides can be calculated on the same basis, and values can be updated on the basis of more recent information recognised by the Secretary of State.

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 ^{M3}.

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 ^{M4}.

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.

Marginal Citations

- M3** A copy may be obtained at www.iso.org or from the Drinking Water Inspectorate, Area 7E, 9 Millbank, c/o Nobel House, 17 Smith Square, London, SW1P 3JR.
- M4** See previous footnote.

SCHEDULE 4

Regulation 14

Records

Initial records

1.—(1) A local authority must record the number of private supplies in its area, and for each supply must record—

- the name of the supply, together with a unique identifier,
- the type of source,
- the geographical location using a grid reference,
- an estimate of the number of people supplied,
- an estimate of the average daily volume of water supplied in cubic metres,
- the type of premises supplied,
- detail of any treatment process, together with its location, and
- the name of the region of Public Health England in whose area the supply is located.

(2) It must review and update the record at least once every 12 months.

Changes to legislation: There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016. (See end of Document for details)

(3) It must keep the record for at least 30 years.

Additional records

2.—(1) For each supply referred to in paragraph 1(1), the local authority must record each of the following within 28 days of the information being available—

- (a) a plan and description of the supply;
- (b) the monitoring programme for the supply;
- (c) the risk assessment;
- (d) the date, results and location of any sampling and analysis relating to that supply, and the reason for taking the sample;
- (e) the results of any investigation undertaken in accordance with these Regulations;
- (f) any authorisation;
- (g) any notices served under section 80 of the Act or regulation 18;
- (h) any action agreed to be taken by any person under these Regulations;
- (i) any request for the local authority to carry out sampling and analysis, undertake a risk assessment or give advice;
- (j) a summary of any advice given in relation to the supply.
- [^{F22}(k) a summary of any risk assessment;
- (l) a summary of the reasons for a decision to reduce or exempt altogether the monitoring of a particular parameter under regulation 11(10) and (10A).]

(2) It must keep the risk assessment and records of sampling and analysis for at least 30 years, and all other records referred to in this paragraph for at least 5 years.

Textual Amendments
F22 Sch. 4 para. 2(1)(k)(l) inserted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(12)** (with reg. 3)

SCHEDULE 5

Regulation 21

Fees

1. A local authority may charge a fee, payable on invoice, for the activities in the following Table, and the fee is the reasonable cost of providing the service^{F23}....

<i>Service</i>	<i>F24</i>
	...
Risk assessment (for each assessment)	F24
	...
Sampling (for each visit) ¹	F24
	...

¹ No fee is payable where a sample is taken and analysed solely to confirm or clarify the results of the analysis of a previous sample.

Investigation (for each investigation)	F24
	. . .
Granting an authorisation (for each authorisation)	F24
	. . .
Analysing a sample—	
taken under regulation 10 (for parameters referred to in paragraph (1)(a) to (e) of that regulation)	F24
	. . .
taken during [^{F25} monitoring of Group A parameters]	F24
	. . .
taken during [^{F26} monitoring of Group B parameters] and monitoring under regulation 11	F24
	. . .

¹ No fee is payable where a sample is taken and analysed solely to confirm or clarify the results of the analysis of a previous sample.

Textual Amendments

- F23** Words in Sch. 5 para. 1 omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(13)(a)** (with reg. 3)
- F24** Words in Sch. 5 omitted (11.7.2018) by virtue of [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(13)(b)(ii)** (with reg. 3)
- F25** Words in Sch. 5 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(13)(b)(i)(aa)** (with reg. 3)
- F26** Words in Sch. 5 substituted (11.7.2018) by [The Private Water Supplies \(England\) \(Amendment\) Regulations 2018 \(S.I. 2018/707\)](#), regs. 1(1), **2(13)(b)(i)(bb)** (with reg. 3)

Persons liable to pay

2.—(1) Any person requesting a local authority to carry out any of the activities specified in the Table in paragraph 1 is liable for the cost.

(2) Otherwise fees are payable, as specified in the invoice, by the relevant person.

(3) Where more than one person is liable for a fee, in determining who is required to make payment, the local authority—

- (a) must have regard to any agreement or other document produced to the local authority relating to the terms on which water is supplied, and
- (b) may apportion the charge between them.

Changes to legislation:

There are currently no known outstanding effects for the The Private Water Supplies (England) Regulations 2016.