ANNEX I

MINIMUM REQUIREMENTS FOR PARAMETRIC VALUES USED TO ASSESS THE QUALITY OF WATER INTENDED FOR HUMAN CONSUMPTION

Part A

Microbiological parameters

Parameter	Parametric value	Unit	Notes
Intestinal enterococci	0	number/100 ml	For water put into bottles or containers, the unit is number/250 ml.
Escherichia coli (E. coli)	0	number/100 ml	For water put into bottles or containers, the unit is number/250 ml.

Part B

Chemical parameters

Parameter	Parametric value	Unit	Notes
Acrylamide	0,10	µg/l	The parametric value of 0,10 µg/l 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.
Antimony	10	µg/l	
Arsenic	10	µg/l	
Benzene	1,0	µg/l	
Benzo(a)pyrene	0,010	µg/l	
Bisphenol A	2,5	µg/l	
Boron	1,5	mg/l	A parametric value of 2,4 mg/l shall

a Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1).

			be applied when desalinated water is the predominant water source of the supply system concerned or in regions where geological conditions could lead to high levels of boron in groundwater.
Bromate	10	µg/l	
Cadmium	5,0	µg/l	
Chlorate	0,25	mg/l	A parametric value of 0,70 mg/l shall be applied where a disinfection method that generates chlorate, in particular chlorine dioxide, is used for disinfection of water intended for human consumption. Where possible, without compromising disinfection, Member States shall strive for a lower value. This parameter shall be measured only if such disinfection methods are used.
Chlorite	0,25	mg/l	A parametric value of 0,70 mg/l shall be applied where a disinfection method that generates chlorite, in particular chlorine dioxide, is used for disinfection of water intended for human consumption. Where possible, without compromising disinfection, Member

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			States shall strive for a lower value. This parameter shall be measured only if such disinfection methods are used.
Chromium	25	µg/l	The parametric value of 25 µg/l shall be met, at the latest, by 12 January 2036. The parametric value for chromium until that date shall be 50 µg/l.
Copper	2,0	mg/l	
Cyanide	50	µg/l	
1,2-dichloroethane	3,0	µg/l	
Epichlorohydrin	0,10	µg/l	The parametric value of 0,10 µg/l 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.
Fluoride	1,5	mg/l	
Haloacetic acids (HAAs)	60	µg/l	This parameter shall be measured only when disinfection methods that can generate HAAs are used for the disinfection of water intended for human consumption. It is the sum of the following five representative substances: monochloro-, dichloro-, and trichloro-acetic acid, and mono- and dibromo-acetic acid.

a Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1).

Lead	5	µg/l	The parametric value of 5 µg/l shall be met, at the latest, by 12 January 2036. The parametric value for lead until that date shall be 10 µg/l.
			After that date, the parametric value of 5 µg/l shall be met at least at the point of supply to the domestic distribution system. For the purposes of point (b) of the first subparagraph of Article 11(2), the parametric value of 5 µg/l at the tap shall apply.
Mercury	1,0	µg/l	
Microcystin-LR	1,0	µg/l	This parameter shall be measured only in the event of potential blooms in source water (increasing cyanobacterial cell density or bloom forming potential).
Nickel	20	µg/l	
Nitrate	50	mg/l	Member States shall ensure that the condition [nitrate]/50 + [nitrite]/3 ≤ 1, where the square brackets signify the concentrations in mg/l for nitrate (NO_3) and nitrite (NO_2), is complied with and that the parametric value of 0,10 mg/l for nitrites is complied with ex water treatment works.

a Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1).

Nitrite	0,50	mg/l	Member States shall ensure that the condition [nitrate]/50 + [nitrite]/3 ≤ 1, where the square brackets signify the concentrations in mg/l for nitrate (NO_3) and nitrite (NO_2), is complied with and that the parametric value of 0,10 mg/l for nitrites is complied with ex water treatment works.
Pesticides	0,10	µg/l	'Pesticides' means: — organic insecticides, — organic herbicides, — organic fungicides, — organic nematocides, — organic acaricides, — organic algicides, — organic rodenticides — organic slimicides, — related products (inter alia, growth regulators), and their metabolites as defined in point (32) of Article 3 of Regulation (EC) No 1107/2009 of the European Parliament and of the Council[a], that are considered relevant for water intended for human consumption.

a Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1).

			A pesticide metabolite shall be deemed relevant for water intended for human consumption if there is reason to consider that it has intrinsic properties comparable to those of the parent substance in terms of its pesticide target activity or that either itself or its transformation products generate a health risk for consumers.
			The parametric value of 0,10 µg/l shall apply to each individual pesticide. In the case of aldrin, dieldrin, heptachlor and heptachlor epoxide, the parametric value shall be 0,030 µg/l. Member States shall define a guidance value to manage the presence of non-relevant metabolites of pesticides in water intended for human consumption. Only pesticides which are likely to be present in a given supply need to be monitored. Based on the data reported by Member States, the Commission may establish a database of pesticides and their relevant metabolites taking

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			into account their possible presence in water intended for human consumption.
Pesticides Total	0,50	µg/l	'Pesticides Total' means the sum of all individual pesticides, as defined in the previous row, detected and quantified in the monitoring procedure.
PFAS Total	0,50	µg/l	'PFAS Total' means the totality of per- and polyfluoroalkyl substances. This parametric value shall only apply once technical guidelines for monitoring this parameter are developed in accordance with Article 13(7). Member States may then decide to use either one or both of the parameters 'PFAS Total' or 'Sum of PFAS'.
Sum of PFAS	0,10	µg/l	'Sum of PFAS' means the sum of per- and polyfluoroalkyl substances considered a concern as regards water intended for human consumption listed in point 3 of Part B of Annex III. This is a subset of 'PFAS Total' substances that contain a perfluoroalkyl moiety with three or more carbons (i.e. –

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			CnF2n–, n ≥ 3) or a perfluoroalkylether moiety with two or more carbons (i.e. –CnF2nOCmF2m–, n and m ≥ 1).
Polycyclic aromatic hydrocarbons	0,10	µg/l	Sum of concentrations of the following specified compounds: benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, and indeno(1,2,3-cd)pyrene.
Selenium	20	µg/l	A parametric value of 30 µg/l shall be applied for regions where geological conditions could lead to high levels of selenium in groundwater.
Tetrachloroethene and Trichloroethene	10	µg/l	The sum of concentrations of these two parameters.
Trihalomethanes Total	100	µg/l	Where possible, without compromising disinfection, Member States shall strive for a lower parametric value. It is the sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane and bromodichloromethane.
Uranium	30	µg/l	
Vinyl chloride	0,50	µg/l	The parametric value of 0,50 µg/l refers to the residual monomer concentration

a Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1).

			in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water.

a Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1).

Part C

Indicator parameters

Parameter	Parametric value	Unit	Notes
Aluminium	200	µg/l	
Ammonium	0,50	mg/l	
Chloride	250	mg/l	The water should not be corrosive.
Clostridium perfringens including spores	0	number/100 ml	This parameter shall be measured if the risk assessment indicates that it is appropriate to do so.
Colour	Acceptable to consumers and no abnormal change		
Conductivity	2 500	µS cm^{-1} at 20 °C	The water should not be aggressive.
Hydrogen ion concentration	≥ 6,5 and ≤ 9,5	pH units	The water should not be aggressive. For still water put into bottles or containers, the minimum value may be reduced to 4,5 pH units. For water put into bottles or containers which is naturally rich in or artificially enriched with carbon dioxide, the minimum value may be lower.
Iron	200	µg/l	

Manganese	50	µg/l	
Odour	Acceptable to consumers and no abnormal change		
Oxidisability	5,0	mg/l O_2	This parameter need not be measured if the parameter TOC is analysed.
Sulphate	250	mg/l	The water should not be corrosive.
Sodium	200	mg/l	
Taste	Acceptable to consumers and no abnormal change		
Colony count 22° C	No abnormal change		
Coliform bacteria	0	number/100 ml	For water put into bottles or containers, the unit is number/250 ml.
Total organic carbon (TOC)	No abnormal change		This parameter need not be measured for supplies of less than 10 000 m^3 a day.
Turbidity	Acceptable to consumers and no abnormal change		

Water should not be aggressive or corrosive. This applies particularly to water undergoing treatment (demineralization, softening, membrane treatment, reverse osmosis, etc.).

Where water intended for human consumption is derived from treatment that significantly demineralizes or softens water, calcium and magnesium salts could be added to condition the water in order to reduce any possible negative health impact, as well as to reduce the corrosiveness or aggressivity of water and to improve taste. Minimum concentrations of calcium and magnesium or total dissolved solids in softened or demineralized water could be established taking into account the characteristics of water that enters those processes.

Part D

Parameters relevant for the risk assessment of domestic distribution systems

Parameter	Parametric value	Unit	Notes
Legionella	< 1 000	CFU/l	This parametric value is set for the purposes of Articles 10 and 14. Actions

			provided for in those Articles could be considered even when the value is below the parametric value, e.g. in cases of infections and outbreaks. In such cases, the source of infection should be confirmed and the species of *Legionella* should be identified.
Lead	10	µg/l	This parametric value is set for the purposes of Articles 10 and 14. Member States should use their best endeavours to achieve the lower value of 5 µg/l by 12 January 2036.

ANNEX II

MONITORING

Part A

General objectives and monitoring programmes for water intended for human consumption

1. Monitoring programmes established pursuant to Article 13(2) for water intended for human consumption shall:

(a) verify that the measures in place to control risks to human health throughout the water supply chain from the abstraction area through treatment and storage to distribution are working effectively and that water intended for human consumption at the point of compliance is wholesome and clean;

(b) provide information on the quality of water supplied for human consumption to demonstrate that the obligations set out in Article 4 and the parametric values set in accordance with Article 5 are being met;

(c) identify the most appropriate means of mitigating the risk to human health.

2. Monitoring programmes established pursuant to Article 13(2) shall include one or a combination of the following:

(a) collection and analysis of discrete water samples;

(b) measurements recorded by a continuous monitoring process.

In addition, monitoring programmes may consist of:

(a) inspections of records of the functionality and maintenance status of equipment;

(b) inspections of the abstraction area, and of the treatment, storage and distribution infrastructure, without prejudice to monitoring requirements provided for under point (c) of the first subparagraph of Article 8(2) and point (b) of the first subparagraph of Article 10(1).

3. Monitoring programmes shall also include an operational monitoring programme that provides rapid insight into operational performance and water quality problems and that allows rapid pre-planned remedial action. Such operational monitoring programmes shall be supply-specific, taking into account the outcomes of the identification of hazards and hazardous events and the risk assessment of the supply system, and shall be intended to confirm the effectiveness of all control measures in abstraction, treatment, distribution and storage.

The operational monitoring programme shall include the monitoring of the parameter ‘turbidity at the water supply plant’ in order to regularly control the efficacy of physical removal by filtration processes, in accordance with the reference values and frequencies indicated in the following table (not applicable for groundwater sources where turbidity is caused by iron and manganese):

Operational parameter	**Reference value**
turbidity at the water supply plant	0,3 NTU in 95 % of samples and none to exceed 1 NTU
Volume (m^3) of water distributed or produced each day within a supply zone	Minimum frequency of sampling and analysis
≤ 1 000	Weekly
> 1 000 to ≤ 10 000	Daily
> 10 000	Continuous

The operational monitoring programme shall also include the monitoring of the following parameters in raw water to control the efficacy of the treatment processes against microbiological risks:

Operational parameter	**Reference value**	**Unit**	**Notes**
Somatic coliphages	50 (for raw water)	Plaque Forming Units (PFU)/100 ml	This parameter shall be measured if the risk assessment indicates that it is appropriate to do so. If it is found in raw water at concentrations > 50 PFU/100 ml, it should be analysed after steps of the

			treatment train in order to determine log removal by the barriers in place and to assess whether the risk of a breakthrough of pathogenic viruses is sufficiently under control.

4. Member States shall ensure that monitoring programmes are reviewed on a continuous basis and updated or confirmed at least every six years.

Part B

Parameters and sampling frequencies

1. List of parameters

Group A

The following parameters (Group A) shall be monitored in accordance with the monitoring frequencies set out in Table 1 of point 2:

(a) *Escherichia coli* (*E. coli*), intestinal enterococci, coliform bacteria, colony count 22 °C, colour, turbidity, taste, odour, pH and conductivity;

(b) other parameters identified as relevant in the monitoring programme, in accordance with Article 5(3) and, where relevant, through a risk assessment of the supply system as set out in Article 9 and Part C of this Annex.

Under specific circumstances, the following parameters shall be added to the Group A parameters:

(a) ammonium and nitrite, if chloramination is used;

(b) aluminium and iron, if used as water treatment chemicals.

Escherichia coli (*E. coli*) and intestinal enterococci are considered ‘core parameters’ and their monitoring frequencies shall not be the subject of a reduction due to a risk assessment of the supply system in accordance with Article 9 and Part C of this Annex. They shall always be monitored at least at the frequencies set out in Table 1 of point 2.

Group B

In order to determine compliance with all parametric values set out in this Directive, all other parameters not analysed under Group A and set in accordance with Article 5, except for parameters in Part D of Annex I, shall be monitored at least at the frequencies set out in Table 1 of point 2, unless a different sampling frequency is determined on the basis of a risk assessment of the supply system carried out in accordance with Article 9 and Part C of this Annex.

2. Sampling frequencies

Table 1. Minimum frequency of sampling and analysis for compliance monitoring

Volume of water distributed or produced each day within a supply zone(See Notes 1 and 2) m^3		**Group A parameternumber of samples per year**	**Group B parameternumber of samples per year**
	< 10	> 0 (See Note 4)	> 0 (See Note 4)
≥ 10	≤ 100	2	1 (See Note 5)
> 100	≤ 1 000	4	1
> 1 000	≤ 10 000	4 for the first 1 000 m^3/d + 3 for each additional 1 000 m^3/d and part thereof of the total volume (See Note 3)	1 for the first 1 000 m^3/d + 1 for each additional 4 500 m^3/d and part thereof of the total volume (See Note 3)
> 10 000	≤ 100 000		3 for first 10 000 m^3/d + 1 for each additional 10 000 m^3/d and part thereof of the total volume (See Note 3)
> 100 000			12 for first 100 000 m^3/d + 1 for each additional 25 000 m^3/d and part thereof of the total volume (See Note 3)

Note 1: A supply zone is a geographically defined area within which water intended for human consumption comes from one or more sources and within which the water quality can be considered as being approximately uniform.

Note 2: The volumes are calculated as averages taken over a calendar year. The number of inhabitants in a supply zone may be used instead of the volume of water to determine the minimum frequency, assuming water consumption of 200 l/(day*capita).

Note 3: The frequency indicated is calculated as follows: e.g. 4 300 m^3/d = 16 samples for Group A parameters (four for the first 1 000 m^3/d + 12 for additional 3 300 m^3/d).

Note 4: For water suppliers, where an exemption has not been granted under point (b) of Article 3(3), Member States shall lay down the minimum sampling frequency for parameters of Groups A and B, provided that core parameters are monitored at least once per year.

Note 5: Member States may reduce the sampling frequency, provided that all parameters set in accordance with Article 5 are monitored at least once every six years and are monitored in cases where a new water source is integrated into the water supply system or changes to that system, as a result of which a potentially adverse effect on the quality of water is to be expected, are made.

Part C

Risk assessment and risk management of the supply system

1. Based on the outcome of the risk assessment of the supply system as referred to in Article 9, the list of parameters considered in the monitoring shall be extended and the sampling frequencies set out in Part B increased where any of the following conditions is fulfilled:

(a) the list of parameters or frequencies set out in this Annex is not sufficient to fulfil the obligations imposed under Article 13(1);

(b) additional monitoring is required for the purposes of Article 13(5);

(c) it is necessary to provide the assurances set out in point (a) of point 1 of Part A;

(d) increasing the sampling frequencies is necessary pursuant to point (a) of the first subparagraph of Article 8(4).

2. As a result of a risk assessment of the supply system, the list of parameters considered in the monitoring and the sampling frequencies set out in Part B may be reduced provided that all of the following conditions are met:

(a) the location and frequency of sampling is determined in relation to the parameter's origin, as well as the variability of, and long-term trend regarding, its concentration, taking into account Article 6;

(b) as regards reducing the minimum sampling frequency of a parameter, the results obtained from samples collected at regular intervals over a period of at least three years, from sampling points representative of the whole supply zone, are all less than 60 % of the parametric value;

(c) as regards removing a parameter from the list of parameters to be monitored, the results obtained from samples collected at regular intervals over a period of at least three years, from sampling points representative of the whole supply zone, are all less than 30 % of the parametric value;

(d) as regards removing a parameter from the list of parameters to be monitored, the decision is based on the outcome of the risk assessment that takes into account the results of monitoring of sources of water intended for human consumption and confirms that human health is protected from the adverse effects of any contamination of water intended for human consumption, as laid down in Article 1;

(e) as regards reducing the sampling frequency of a parameter or removing a parameter from the list of parameters to be monitored, the risk assessment confirms that no factor that can be reasonably anticipated is likely to cause deterioration of the quality of the water intended for human consumption.

Where monitoring results, demonstrating that the conditions set out in points (2)(b) to (2)(e) are met, are already available by 12 January 2021, those monitoring results may, from that date, be used to adapt the monitoring following the risk assessment of the supply system.

Where adjustments of monitoring have already been implemented following risk assessment of the supply system in accordance, inter alia, with Part C of Annex II of Directive 98/83/EC, Member States may provide for the possibility to confirm their validity without requiring monitoring in accordance with point 2(b) and 2(c) over a further period of at least three years from points representative of the whole supply zone.

Part D

Sampling methods and sampling points

1. Sampling points shall be determined so as to ensure compliance with Article 6(1). In the case of a distribution network, a Member State may take samples within the supply zone or at the treatment works for particular parameters if it can be demonstrated that there would be no adverse change to the measured value of the parameters concerned. As far as possible, the number of samples shall be distributed equally in time and location.

2. Sampling at the point of compliance shall meet the following requirements:

(a) compliance samples for certain chemical parameters, in particular copper, lead, and nickel, shall be taken at the consumers' tap without prior flushing. A random daytime sample of one litre volume is to be taken. As an alternative, Member States may use fixed stagnation time methods that better reflect their national situation, such as the average weekly intake by consumers, provided that, at the supply zone level, this does not result in fewer cases of non-compliance than using the random daytime method;

(b) compliance samples for microbiological parameters at the point of compliance shall be taken and handled in accordance with EN ISO 19458, sampling purpose B.

3. Samples for *Legionella* in domestic distribution systems shall be taken at risk points for proliferation of *Legionella*, points representative for systemic exposure to *Legionella,* or both. Member States shall establish guidelines for sampling methods for *Legionella*.

4. Sampling in the distribution network, with the exception of sampling at the consumers' tap, shall be in accordance with ISO 5667-5. For microbiological parameters, samples in the distribution network shall be taken and handled in accordance with EN ISO 19458, sampling purpose A.

ANNEX III

SPECIFICATIONS FOR THE ANALYSIS OF PARAMETERS

Member States shall ensure that the methods of analysis used for the purposes of monitoring and demonstrating compliance with this Directive, with the exception of turbidity, are validated and documented in accordance with EN ISO/IEC 17025 or other equivalent standards accepted at international level. Member States shall ensure that laboratories or parties contracted by laboratories apply quality management system practices in accordance with EN ISO/IEC 17025 or other equivalent standards accepted at international level.

For the purposes of assessing the equivalence of alternative methods with the methods laid down in this Annex, Member States may use standard EN ISO 17994, established as the standard on the equivalence of microbiological methods, or standard EN ISO 16140 or any other similar internationally accepted protocols, to establish the equivalence of methods based on principles other than culturing, which are beyond the scope of EN ISO 17994.

In the absence of an analytical method meeting the minimum performance criteria set out in Part B, Member States shall ensure that monitoring is carried out using the best available techniques not entailing excessive costs.

Part A

Microbiological parameters for which methods of analysis are specified

The methods of analysis for microbiological parameters are:

(a) *Escherichia coli* (*E. coli*) and coliform bacteria (EN ISO 9308-1 or EN ISO 9308-2);

(b) intestinal enterococci (EN ISO 7899-2);

(c) colony count or heterotrophic plate counts at 22 °C (EN ISO 6222);

(d) *Clostridium perfringens* including spores (EN ISO 14189);

(e) *Legionella* (EN ISO 11731 for compliance with the value in Part D of Annex I);

for risk-based verification monitoring and to complement culture methods, in addition methods, such as ISO/TS 12869, rapid culture methods, non-culture-based methods, and molecular-based methods, in particular qPCR, can be used;

(f) somatic coliphages;

for operational monitoring, Part A of Annex II, EN ISO 10705-2, and EN ISO 10705-3 can be used.

Part B

Chemical and indicator parameters for which performance characteristics are specified

1. Chemical and indicator parameters

For the parameters set out in Table 1 of this Annex, the method of analysis used shall, as a minimum, be capable of measuring concentrations equal to the parametric value with a limit of quantification, as defined in point (2) of Article 2 of Commission Directive 2009/90/EC[(1)], of 30 % or less of the relevant parametric value and an uncertainty of measurement as specified in Table 1 of this Annex. The result shall be expressed using at least the same number of significant figures as for the parametric value referred to in Parts B and C of Annex I to this Directive.

The uncertainty of measurement laid down in Table 1 shall not be used as an additional tolerance to the parametric values set out in Annex I.

TABLE 1. MINIMUM PERFORMANCE CHARACTERISTIC
'UNCERTAINTY OF MEASUREMENT'

Parameters	**Uncertainty of measurement(See Note 1)% of the parametric value (except for pH)**	**Notes**
Aluminium	25	
Ammonium	40	
Acrylamide	30	
Antimony	40	

Arsenic	30	
Benzo(a)pyrene	50	See Note 2
Benzene	40	
Bisphenol A	50	
Boron	25	
Bromate	40	
Cadmium	25	
Chloride	15	
Chlorate	40	
Chlorite	40	
Chromium	30	
Copper	25	
Cyanide	30	See Note 3
1,2-dichloroethane	40	
Epichlorohydrin	30	
Fluoride	20	
HAAs	50	
Hydrogen ion concentration pH	0,2	See Note 4
Iron	30	
Lead	30	
Manganese	30	
Mercury	30	
Microcystin-LR	30	
Nickel	25	
Nitrate	15	
Nitrite	20	
Oxidisability	50	See Note 5
Pesticides	30	See Note 6
PFAS	50	
Polycyclic aromatic hydrocarbons	40	See Note 7
Selenium	40	
Sodium	15	
Sulphate	15	

Tetrachloroethene	40	See Note 8
Trichloroethene	40	See Note 8
Trihalomethanes – total	40	See Note 7
Total organic carbon (TOC)	30	See Note 9
Turbidity	30	See Note 10
Uranium	30	
Vinyl chloride	50	

2. Notes to Table 1

Note 1 : Uncertainty of measurement is a non-negative parameter characterising the dispersion of the quantity values being attributed to a measurand, 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 any stricter value. The uncertainty of measurement shall be estimated at the level of the parametric value, unless otherwise specified.

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

Note 3 : The method determines total cyanide in all forms.

Note 4 : The value for the uncertainty of measurement is expressed in pH units.

Note 5 : Reference method: EN ISO 8467.

Note 6 : 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, while higher values up to 80 % may be allowed for a number of pesticides.

Note 7 : The performance characteristics apply to individual substances, specified at 25 % of the parametric value in Part B of Annex I.

Note 8 : The performance characteristics apply to individual substances, specified at 50 % of the parametric value in Part B of Annex I.

Note 9 : The uncertainty of measurement should be estimated at the level of 3 mg/l of the total organic carbon (TOC). EN 1484 Guidelines for the determination of TOC and dissolved organic carbon (DOC) shall be used for the specification of the uncertainty of the test method.

Note 10 : The uncertainty of measurement should be estimated at the level of 1,0 NTU (nephelometric turbidity units), in accordance with EN ISO 7027 or another equivalent standard method.

3. Sum of PFAS

The following substances shall be analysed based on the technical guidelines developed in accordance with Article 13(7):

— Perfluorobutanoic acid (PFBA)
— Perfluoropentanoic acid (PFPA)
— Perfluorohexanoic acid (PFHxA)
— Perfluoroheptanoic acid (PFHpA)
— Perfluorooctanoic acid (PFOA)
— Perfluorononanoic acid (PFNA)

— Perfluorodecanoic acid (PFDA)
— Perfluoroundecanoic acid (PFUnDA)
— Perfluorododecanoic acid (PFDoDA)
— Perfluorotridecanoic acid (PFTrDA)
— Perfluorobutane sulfonic acid (PFBS)
— Perfluoropentane sulfonic acid (PFPS)
— Perfluorohexane sulfonic acid (PFHxS)
— Perfluoroheptane sulfonic acid (PFHpS)
— Perfluorooctane sulfonic acid (PFOS)
— Perfluorononane sulfonic acid (PFNS)
— Perfluorodecane sulfonic acid (PFDS)
— Perfluoroundecane sulfonic acid
— Perfluorododecane sulfonic acid
— Perfluorotridecane sulfonic acid

Those substances shall be monitored when the risk assessment and risk management of the catchment areas for abstraction points carried out in accordance with Article 8 conclude that those substances are likely to be present in a given water supply.

ANNEX IV

INFORMATION TO THE PUBLIC

The information in the following points shall be accessible to consumers on-line, in a user-friendly and customised way, and consumers may obtain access to that information by other means upon justified request:

(1) identification of the relevant water supplier, the area and number of people supplied, and the method of water production, including general information on types of water treatment and disinfection applied; Member States may derogate from this requirement in accordance with Article 13(1) of Directive 2007/2/EC;

(2) the most recent monitoring results for parameters listed in Parts A, B and C of Annex I, including monitoring frequency together with the parametric value set in accordance with Article 5; the monitoring results shall not be more than one year old, except where the monitoring frequency set by this Directive allows otherwise;

(3) information on the following parameters not listed in Part C of Annex I and associated values:

(a) hardness;

(b) minerals, anions/cations dissolved in water:
— calcium Ca,
— magnesium Mg,
— potassium K;

(4) in the event of a potential danger to human health as determined by competent authorities or other relevant bodies following an exceedance of the parametric values set in accordance with Article 5, information on the potential danger to human health

and the associated health and consumption-related advice or a hyperlink providing access to such information;

(5) relevant information on risk assessment of the supply system;

(6) advice to consumers, including on how to reduce water consumption, where appropriate, how to use water responsibly according to local conditions and how to avoid health risks due to stagnant water;

(7) for water suppliers supplying at least 10 000 m^3 per day or serving at least 50 000 people, annual information on:

(a) the overall performance of the water system in terms of efficiency and leakage rates, once that information is available and at the latest on the date set out in the second subparagraph of Article 4(3);

(b) the ownership structure of the water supply by the water supplier;

(c) where costs are recovered through a tariff system, information on the structure of the tariff per cubic metre of water, including fixed and variable costs and costs related to measures for the purposes of Article 16, where such measures have been taken by water suppliers;

(d) where available, a summary and statistics regarding consumer complaints received by the water suppliers on matters within the scope of this Directive;

(8) upon justified request, consumers shall be given access to historical data for information under points (2) and (3), dating back up to 10 years, if available, and not earlier than 13 January 2023.

ANNEX V

PRINCIPLES FOR SETTING METHODOLOGIES REFERRED TO IN ARTICLE 11**Groups of materials**

1. Organic materials

Organic materials shall only be made of:

(a) the starting substances listed in the European positive list of starting substances to be established by the Commission in accordance with point (b) of the first subparagraph of Article 11(2); and

(b) substances in relation to which there is no possibility that the substance and its reaction products are present at levels exceeding 0,1 μg/l in water intended for human consumption, unless for specific substances a more stringent value is needed taking into account their toxicity.

Organic materials shall be tested in accordance with Table 1 in line with methods for testing specified in relevant European standards or, in the absence thereof, an internationally or nationally recognised method and shall satisfy the requirements stipulated therein. For this purpose, the test results in terms of substance migration shall be converted into estimated levels at the tap.

2. Metallic materials

Only metallic materials included in the European positive list of compositions to be established by the Commission in accordance with point (b) of the first subparagraph of Article 11(2) shall be used. The limitations stipulated in the European positive list in respect of the composition of these materials, their use for certain products and the use of these products shall be complied with.

Metallic materials shall be tested in accordance with Table 1 in line with methods for testing specified in relevant European standards or, in the absence thereof, an internationally or nationally recognised method and shall satisfy the requirements stipulated therein.

3. Cementitious materials

Cementitious materials shall only be made of one or more of the following:

(a) organic constituents listed in the European positive list of constituents to be established by the Commission in accordance with point (b) of the first subparagraph of Article 11(2);

(b) organic constituents in relation to which there is no possibility that the constituents and their reaction products are present at levels exceeding 0,1 µg/l in water intended for human consumption; or

(c) inorganic constituents.

Cement-bound materials shall be tested in accordance with Table 1 in line with methods for testing specified in relevant European standards or, in the absence thereof, an internationally or nationally recognised method and shall satisfy the requirements stipulated therein. For this purpose, the test results in terms of substance migration shall be converted into estimated levels at the tap.

4. Enamels and ceramic materials

Enamels and ceramic materials shall only be made of starting substances from the European positive list of compositions to be established by the Commission in accordance with point (b) of the first subparagraph of Article 11(2), after carrying out an assessment of the elements used in the composition of these materials.

Enamels and ceramic materials shall be tested in accordance with Table 1 in line with methods for testing specified in relevant European standards or, in the absence thereof, an internationally or nationally recognised method and shall satisfy the requirements stipulated therein. For this purpose, the test results in terms of substance migration shall be converted into estimated levels at the tap.

5. Exceptions for assessment of materials used in minor and assembled components

For assembled products: minor components, parts and materials shall be described in detail and testing shall be reduced accordingly. For this purpose, ‘minor’ refers to a level of influence on the quality of water intended for human consumption that does not require full testing.

Table 1. Testing related to material types

Criteria	Organic (See Note 1)	Metallic (See Note 2)	Cementitious	Enamels and ceramic materials
European positive lists				
European positive list of starting substances for organic materials	X	N.N.	X	N.N.
European positive list of accepted metallic compositions	N.N.	X	N.N.	N.N.
European positive list of constituents for cementitious materials	N.N.	N.N.	X	N.N.
European positive list of compositions for enamels and ceramic materials	N.N.	N.N.	N.N.	X
Organoleptic tests				
Odour and flavour	X	N.N.	X	N.N.
Colour and Turbidity	X	N.N.	X	N.N.
General hygiene assessments				

a Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food (OJ L 12, 15.1.2011, p. 1).

N.N.: Not necessary

MTCtap: Maximum tolerable concentration at the tap (either derived from the opinion of ECHA for the purposes of inclusion of the substance in the European positive list, or based on a specific migration limit set in Commission Regulation (EU) No 10/2011[a] and considering a 10 % allocation factor and water consumption of 2 litres per day)

GCMS: Gas Chromatography – Mass Spectrometry (screening method)

Note 1: Specific exceptions to be determined in line with point 5 of this Annex.

Note 2: Metals shall not be subject to organoleptic testing because it is generally accepted that if the parametric values set out in Annex I are met, organoleptic problems are unlikely to arise.

Note 3: Depending on the existence of organic substances in the composition.

Table 1. Testing related to material types

Leaching of total organic carbon	X	N.N.	X	N.N.
Surface residues (metals)	N.N.	X	N.N.	N.N.
Migration testing				
Relevant parameters of this Directive	X	X	X	X
MTC_{tap} of PL substances	X	N.N.	X (See Note 3)	N.N.
Unexpected substances (GCMS)	X	N.N.	X (See Note 3)	N.N.
Compliance with compositions lists	N.N.	X	N.N.	X
Enhancement of microbial growth	X	N.N.	X (See Note 3)	N.N.

a Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food (OJ L 12, 15.1.2011, p. 1).

N.N.: Not necessary

MTCtap: Maximum tolerable concentration at the tap (either derived from the opinion of ECHA for the purposes of inclusion of the substance in the European positive list, or based on a specific migration limit set in Commission Regulation (EU) No 10/2011[a] and considering a 10 % allocation factor and water consumption of 2 litres per day)

GCMS: Gas Chromatography – Mass Spectrometry (screening method)

Note 1: Specific exceptions to be determined in line with point 5 of this Annex.

Note 2: Metals shall not be subject to organoleptic testing because it is generally accepted that if the parametric values set out in Annex I are met, organoleptic problems are unlikely to arise.

Note 3: Depending on the existence of organic substances in the composition.

ANNEX VI

Part A

Repealed Directive with list of the successive amendments thereto

(referred to in Article 26)

Council Directive 98/83/EC (OJ L 330, 5.12.1998, p. 32).	
Regulation (EC) No 1882/2003 of the European Parliament and of the Council	Only point 29 of Annex II

(OJ L 284, 31.10.2003, p. 1).	
Regulation (EC) No 596/2009 of the European Parliament and of the Council (OJ L 188, 18.7.2009, p. 14).	Only point 2.2 of the Annex
Commission Directive (EU) 2015/1787 (OJ L 260, 7.10.2015, p. 6).	

Part B

Time-limits for transposition into national law

(referred to in Article 26)

Directive	**Time-limit for transposition**
98/83/EC	25 December 2000
(EU) 2015/1787	27 October 2017

ANNEX VII

CORRELATION TABLE

Directive 98/83/EC	**This Directive**
Article 1	Article 1
Article 2, point (1)	Article 2, point (1)
Article 2, point (2)	Article 2, point (2)
–	Article 2, points (3) to (11)
Article 3(1)	Article 3(1)
–	Article 3(2)
Article 3(2)	Article 3(3)
Article 3(3)	Article 3(4)
–	Article 3(5) and (6)
Article 4(1) and (2)	Article 4(1) and (2)
–	Article 4(3)
Article 5	Article 5
Article 6	Article 6
–	Article 7
–	Article 8
–	Article 9

–	Article 10
–	Article 11
–	Article 12
Article 7(1)	Article 13(1)
Article 7(2)	Article 13(2), introductory wording
–	Article 13(2), points (a) to (e)
Article 7(3)	Article 13(3)
Article 7(4)	–
Article 7(5) and (6)	Article 13(4) and (5)
–	Article 13(6) to (8)
Article 8(1)	Article 14(1)
Article 8(2)	Article 14(2), first subparagraph
–	Article 14(2), second subparagraph
Article 8(3)	Article 14(3), first subparagraph
–	Article 14(3), second subparagraph
Article 8(4)	Article 14(5)
Article 8(5)	–
Article 8(6)	Article 14(6)
Article 8(7)	Article 14(4), introductory wording, point (a)
–	Article 14(4), points (b) and (c)
Article 9(1), first sentence	Article 15(1), first subparagraph, introductory wording
–	Article 15(1), first subparagraph, points (a) to (c)
Article 9(1), second sentence	Article 15(1), second subparagraph
Article 9(1), third sentence	Article 15(1), third subparagraph
Article 9(2)	–
Article 9(3) to (6)	Article 15(2) to (5)
Article 9(7)	Article 18(1), point (e)
Article 9(8)	Article 15(6)
–	Article 16
Article 10	–
Article 11	Article 20
Article 12	Article 22
Article 13(1)	Article 17(1)

–	Article 17(2) and (3)
Article 13(2) to (6)	–
–	Article 18(1), first subparagraph, points (a) to (d)
–	Article 18(1), second subparagraph
–	Article 18(2) to (5)
–	Article 19
–	Article 21
–	Article 23
–	Article 25
Article 14	–
Article 15	–
Article 16	Article 26
Article 17	Article 24
Article 18	Article 27
Article 19	Article 28
Annex I, Part A	Annex I, Part A
Annex I, Part B	Annex I, Part B
Annex I, Part C	Annex I, Part C
–	Annex I, Part D
Annex II, Part A, points (1) and (2)	Annex II, Part A, points (1) and (2)
Annex II, Part A, point (3)	–
–	Annex II, Part A, point (3)
Annex II, Part A, point (4)	Annex II, Part A, point (4)
Annex II, Part B, point (1)	–
Annex II, Part B, point (2)	Annex II, Part B, point (1)
Annex II, Part B, point (3)	Annex II, Part B, point (2)
Annex II, Part C	Annex II, Part C
Annex II, Part D, points (1) and (2)	Annex II, Part D, points (1) and (2)
–	Annex II, Part D, point (3)
Annex II, Part D, point (3)	Annex II, Part D, point (4)
Annex III, first subparagraph	Annex III, first subparagraph
–	Annex III, second subparagraph
Annex III, second subparagraph	Annex III, third subparagraph

Annex III, Part A, first and second subparagraph	–
Annex III, Part A, third subparagraph, points (a) to (f)	Annex III, Part A
Annex III, Part B, point (1), first subparagraph	Annex III, Part B, point (1), first subparagraph
Annex III, Part B, point (1), second subparagraph	–
Annex III, Part B, point (1), third subparagraph and Table 1	Annex III, Part B, point (1), second subparagraph and Table 1
Annex III, Part B, point (1), Table 2	–
Annex III, Part B, point (2)	Annex III, Part B, point (2)
–	Annex III, Part B, point (3)
Annex IV	–
Annex V	Annex VII
–	Annex IV
–	Annex V
–	Annex VI

(**1**) Commission Directive 2009/90/EC of 31 July 2009 laying down, pursuant to Directive 2000/60/EC of the European Parliament and of the Council, technical specifications for chemical analysis and monitoring of water status (OJ L 201, 1.8.2009, p. 36).