Republic of Latvia

Cabinet

Regulation No. 233

Adopted 9 May 2023

**Mandatory Harmlessness and Quality Requirements for Drinking Water to be Used in a Food Establishment, and the Procedures for the Monitoring and Control Thereof**

*Issued pursuant to*

*Section 4, Paragraphs two and four and Section 19, Paragraph five of the Law on the Supervision of the Handling of Food*

**I. General Provisions**

1. The Regulation prescribes the following in relation to drinking water to be used in a food establishment:

1.1. the mandatory harmlessness and quality requirements and the procedures for assessing the conformity of drinking water with the mandatory harmlessness and quality requirements;

1.2. the procedures for monitoring and control.

2. Terms used in the Regulation:

2.1. drinking water – any untreated or specially treated surface water and groundwater which:

2.1.1. is used in food establishments to produce, process, preserve, or sell products or substances intended for human consumption;

2.1.2. is packaged in bottles or other containers for distribution under the trade name “drinking water” in a food establishment (hereinafter – the packaged drinking water);

2.2. drinking water monitoring programme – determination of the harmlessness and quality parameters of drinking water in a food establishment at the compliance sites referred to in Paragraphs 5 and 12 of this Regulation by conducting laboratory examinations of drinking water to ensure that it conforms to the requirements of this Regulation;

2.3. food establishment – an establishment which corresponds to the conditions of Article 3(2) of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (hereinafter – Regulation No 178/2002);

2.4. food business operator – an operator involved in food business which corresponds to the definition laid down in Article 3(3) of Regulation (EC) No 178/2002 (hereinafter – the food establishment).

3. This Regulation shall not apply to:

3.1. natural mineral water which conforms to the requirements of the laws and regulations regarding natural mineral water and to spring water;

3.2. water classified as a medicinal product by the State Agency of Medicines in accordance with the laws and regulations regarding the procedures for registering medicinal products.

4. Drinking water shall be considered wholesome and clean if all of the following conditions are met:

4.1. the drinking water does not contain micro-organisms, parasites, and substances that can pose a potential threat to human health when being in a specific quantity or concentration;

4.2. the drinking water conforms to the requirements laid down in Paragraphs 1 and 2 of Annex 1 to this Regulation. The values of indicators referred to in Paragraph 3 of Annex 1 to this Regulation are determined only for monitoring purposes, and also to ensure implementation of corrective measures;

4.3. all measures have been taken to ensure conformity with the requirements of this Regulation.

5. Drinking water in the food establishment shall conform to the harmlessness and quality requirements laid down in Annex 1 to this Regulations at the site where:

5.1. the drinking water is filled in bottles or other containers during packaging;

5.2. the drinking water is used.

6. Upon establishing non-conformity of drinking water with the requirements laid down in Annex 1 to this Regulation, the food establishment shall take corrective measures in order to eliminate the non-conformity and potential threats to human health.

7. The National Standardisation Institution shall, upon recommendation of the Ministry of Agriculture, publish on its website a list of standards that can be applied to the risk assessment of drinking water.

**II. Indicators of Drinking Water and Frequency of the Determination Thereof**

8. To ensure compliance with the harmlessness and quality requirements of drinking water, the food business operator shall implement the following drinking water monitoring programme in the food establishment, meeting the conditions included in Annex 3 to this Regulation:

8.1. regular monitoring in order to obtain information on microbiological, organoleptic, and physical and chemical indicators of drinking water in accordance with Paragraph 1 of Annex 2 to this Regulation;

8.2. audit monitoring in respect of the conformity of drinking water with all the indicators specified in Paragraph 2 of Annex 2 to this Regulation;

8.3. monitoring of the indicators of radioactive substances if an activity has been commenced involving a new water abstraction site in order to obtain information on the concentration of radioactive substances in drinking water according to the indicators specified in Paragraph 3 of Annex 2 to this Regulation.

9. In conducting an inspection at the food establishment, the Food and Veterinary Service (hereinafter – the Service) shall ascertain the implementation of the drinking water monitoring programme.

10. The drinking water monitoring programme specified in Paragraph 8 of this Regulation shall not be implemented by the following food business operators:

10.1. retail establishments where food does not come into direct contact with drinking water during food handling activities;

10.2. primary manufacturing establishments of products of plant origin which do not use drinking water in the treatment of products;

10.3. retail establishments that only use drinking water for preparing hot beverages, for example, coffee and tea, and obtain it from a centralised water supply system;

10.4. fishing vessels, fishery product transport, fishery product processing, and fishery product freezer vessels.

11. The minimum frequency of water sampling and performance of analysis may be reduced or certain indicators need not be determined in monitoring in accordance with Paragraph 28 of this Regulation.

12. Samples of drinking water for monitoring and control in the food establishment shall be taken from the site where:

12.1. the drinking water is filled in bottles or other containers during packaging;

12.2. the drinking water is used.

13. The water supplier shall, upon request of the food establishment, inform it of the testing results of drinking water in the external water supply network and distribution system.

14. Monitoring of drinking water shall be organised by the owner or manager of the food establishment. Costs of the monitoring of drinking water shall be covered by the food establishment.

**III. Indicators of Radioactive Substances of Drinking Water**

15. When starting to use a new water abstraction site, the food establishment that has its own water abstraction site shall determine the indicators of radioactive substances referred to in Paragraph 3 of Annex 2 to this Regulation. If, over a period of one year, the value of the indicators of radioactive substances referred to in Paragraph 3 of Annex 2 to this Regulation is below the level specified in Paragraph 4 of Annex 1 to this Regulation, the food establishment has the right not to conduct the monitoring of the indicators of radioactive substances if the Service has been informed thereof.

16. If it is established that the indicators of radioactive substances do not correspond to the values referred to in Paragraph 4 of Annex 1 to this Regulation, the food establishment shall inform the Service, and the Service shall, in cooperation with the Radiation Safety Centre of the State Environmental Service (hereinafter – the Radiation Safety Centre), consider whether corrective measures are required to eliminate the risk that can be posed by the concentration of radioactive substances in drinking water.

17. If corrective measures are required to eliminate the risk that can be posed by the concentration of radioactive substances in drinking water, the food establishment shall take corrective measures, following the instructions of the Service. The corrective measures shall be taken immediately if radon concentration exceeds 1000 Bq/l.

18. The Radiation Safety Centre shall, upon request of the Service, provide recommendations on the instructions referred to in Paragraph 17 of this Regulation.

19. If the value of the indicators of radioactive substances referred to in Paragraph 4 of Annex 1 to this Regulations is exceeded in the sample to be inspected, the food establishment shall conduct the control of radioactive substances referred to in Paragraph 3 of Annex 2 to this Regulation in accordance with the frequency of water sampling and analyses specified in Paragraph 3 of Annex 3 to this Regulation in order to ensure that the values to be measured characterise the average activity concentration throughout the entire year.

20. If drinking water is treated for the purpose of reducing the level of radionuclides, the Service shall determine the frequency of further inspections to control treatment efficiency, following the recommendations of the Radiation Safety Centre. These measurements shall be ensured by the food establishment.

**IV. Risk Assessment in the Development of the Drinking Water Monitoring Programme of the Food Establishment**

21. The risk assessment of drinking water shall be voluntary.

22. If the standards referred to in Paragraph 7 of this Regulation are applied, it shall be considered that the risk assessment of drinking water which conforms to the requirements of the applicable standards or parts thereof also conforms to the requirements of this Chapter covered by the abovementioned standards or parts thereof.

23. The results of the monitoring of water status obtained in accordance with the laws and regulations regarding the requirements for the development of monitoring programmes for surface water, groundwater, and protection zones, and also the data obtained in scientific studies may be used in the risk assessment.

24. The Institute of Food Safety, Animal Health and Environment “BIOR” (hereinafter – the Institute “BIOR”) shall be the competent authority in the risk assessment of drinking water in the food establishment.

25. The template for the risk assessment of drinking water available on the website of the Institute “BIOR” may be used for the risk assessment of drinking water.

26. The risk assessment shall be conducted by the food establishment or the Institute “BIOR” Institute upon agreement with the food establishment.

27. On the basis of the results of the risk assessment, the performer of the risk assessment may include in the monitoring programme the indicators other than those referred to in Paragraphs 1 and 2 of Annex 2 to this Regulation and increase the frequency of sampling and analyses specified in Annex 3 to this Regulation if:

27.1. it is not sufficient with the list of indicators specified in Annex 2 to this Regulation or the frequency of sampling and analyses specified in Annex 3 to this Regulation to verify the conformity of drinking water with the requirements of this Regulation;

27.2. there is a threat to human health.

28. On the basis of the results of the risk assessment, the performer of the risk assessment need not include in the monitoring programme certain indicators referred to in Paragraphs 1 and 2 of Annex 2 to this Regulation and may reduce the frequency of sampling and performance of analyses specified in Annex 3 to this Regulation, except for *Escherichia coli* and intestinal enterococci if:

28.1. the frequency of sampling and performance of analyses has been determined in conjunction with the origin of the indicator and also the concentration variability and long-term tendency;

28.2. the specific indicator does not exceed 60 per cent of the maximum permissible value specified in Annex 1 to this Regulation in samples taken at representative sampling points over a period of at least three years. In such a situation, the sampling frequency for determining the respective indicator may be reduced;

28.3. the specific indicator does not exceed 30 per cent of the maximum permissible value specified in Annex 1 to this Regulation in samples taken at the sites referred to in Paragraph 5 of this Regulation over a period of at least three years. In such a situation, the relevant indicator may be removed from the list of monitoring indicators;

28.4. the removal of the relevant indicator from the list of monitoring indicators is justified with the result that has been obtained in the risk assessment based on the monitoring of drinking water abstraction sites or results of the drinking water monitoring, and it confirms that human health is safe against any adverse effects caused by the pollution of drinking water;

28.5. insignificant likelihood is confirmed in the risk assessment regarding the impact of a reasonably foreseeable factor on deterioration in the quality of drinking water.

29. The risk assessment of drinking water shall be reviewed and updated at least once every six years.

30. If the risk assessment has been conducted, the food establishment shall implement the monitoring programme according to the monitoring programme developed in the risk assessment, without taking into account Paragraph 8 of this Regulation.

**V. Control of the Implementation of the Drinking Water Monitoring Programme**

31. If non-conformity of drinking water with the requirements of this Regulation is established during monitoring, the food establishment shall immediately inform the relevant territorial unit of the Service electronically, and if the values of indicators of radioactive substance are not compliant, also the Radiation Safety Centre.

32. The food establishment shall perform laboratory analyses of drinking water in a laboratory which has been accredited by the national accreditation body in accordance with the laws and regulations regarding the assessment, accreditation, and supervision of conformity assessment bodies, or in another accredited laboratory of a European Union Member State.

33. Drinking water shall be tested using the methods referred to in Annex 4 to this Regulation, taking into account the following:

33.1. the laboratory has the right to employ the methods other than those referred to in Paragraph 1 of Annex 4 to this Regulation if the results obtained are comparable to the results obtained by the testing methods referred to in Annex 4 to this Regulation, and if equal limit of determination of results, precision and reliability thereof can be reached by other testing method;

33.2. any method of analysis may be employed to determine the indicators referred to in Paragraph 2 of Annex 4 to this Regulation if it conforms to the requirements laid down in Annex 4 to this Regulation.

34. If transportation, sampling, preservation, and storage of the samples of drinking water, and also sampling from preparation equipment and pipeline distribution systems conform to the standards referred to in Paragraph 3 of Annex 4 to this Regulation, it shall be considered to conform to the requirements laid down in this Chapter which are covered by these standards or parts thereof.

35. If non-conformity of drinking water with the requirements laid down in this Regulation or with the indicators other than those referred to in Annex 1 to this Regulation is established or in the case of suspected possible presence of pathogenic micro-organisms and toxic substances other than those referred to in this Regulation in such quantity that poses a threat to human health:

35.1. the Service shall immediately decide on further actions by assessing the potential threat to human health depending on the exceeded indicators and the maximum levels of exceeding the values;

35.2. the service has the right to restrict or prohibit the use of drinking water.

**VI. Minimum Requirements for the Means and Materials that Come into Contact with Drinking Water**

36. Components of chemical substances and mixtures used in treatment and components of water preparation equipment that come into contact with drinking water:

36.1. shall neither directly nor indirectly deteriorate the quality of drinking water, and drinking water after the special treatment with chemical substances and mixtures thereof in water preparation equipment conforms to the requirements laid down in Annex 1 to this Regulation;

36.2. shall not adversely affect the colour, odour, or taste of water;

36.3. shall not promote the growth of micro-organisms inadvertently;

36.4. shall not contaminate water more than necessary, depending on the intended purpose.

37. Food establishments shall carry out appropriate disinfection of equipment thereof to ensure harmlessness of drinking water.

38. The minimum requirements for materials which are intended for use in the abstraction, treatment, storage, or distribution of drinking water in new equipment or existing equipment if it is repaired or reconstructed and which come into contact with drinking water shall be laid down in the laws and regulations regarding construction standards.

**VII. Closing Provisions**

39. Food establishments that have agreed upon the drinking water monitoring programme with the Health Inspectorate or the Radiation Safety Centre in accordance with Cabinet Regulation No. 671 of 14 November 2017, Mandatory Harmlessness and Quality Requirements for Drinking Water, and the Procedures for Monitoring and Control Thereof, shall implement the drinking water monitoring until implementation of the agreed monitoring programme.

40. Food establishments for which the Health Inspectorate has stipulated reduced harmlessness and quality requirements for drinking water in accordance with Cabinet Regulation No. 671 of 14 November 2017, Mandatory Harmlessness and Quality Requirements for Drinking Water, and the Procedures for Monitoring and Control Thereof, shall apply them until expiry of the specified period.

41. Food establishments shall apply the maximum permissible norms for chemical indicators (bisphenol A, chlorates, chlorites, haloacetic acids (HAA5), microcystin-LR, PFAS total, PFAS sum, and uranium) specified in Paragraph 2 of Annex 1 to this Regulation from 12 January 2026.

**Informative Reference to European Union Directives**

This Regulation contains legal norms arising from:

1) Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast);

2) Council Directive 2013/51/Euratom of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.

Prime Minister A. K. Kariņš

Minister for Agriculture D. Šmits

**Annex 1**

Cabinet Regulation No 233

9 May 2023

**Mandatory Harmlessness and Quality Requirements for Drinking Water to be Used in the Food Establishment**

1. Microbiological Parameters

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Maximum Permitted Level** |
| 1.1. | For non-packaged drinking water at the site where drinking water is used in the food establishment: | |
| 1.1.1. | *Escherichia coli* | 0/100 ml |
| 1.1.2. | Intestinal enterococci | 0/100 ml |
| 1.2. | For drinking water at the site where water is filled in bottles or containers and for packaged drinking water: | |
| 1.2.1. | *Escherichia coli* | 0/250 ml |
| 1.2.2. | Intestinal enterococci | 0/250 ml |

2. Chemical Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Indicator** | **Maximum Permitted Level** | **Notes** |
| 2.1. | Acrylamide | 0.10 µg/l | The indicator refers to the concentration of monomer residue in water which is calculated by taking into account the maximum release from the respective polymer in contact with water |
| 2.2. | Antimony | 10 µg/l |  |
| 2.3. | Arsenic | 10 µg/l |  |
| 2.4. | Benzene | 1.0 µg/l |  |
| 2.5. | Benzo(a)pyrene | 0.010 µg/l |  |
| 2.6. | Bisphenol A | 2.5 µg/l |  |
| 2.7. | Boron | 1.5 mg/l | The value of 2.4 mg/l can be applied if the risk assessment concludes that a high level of boron in groundwater has been caused by geological conditions in the region |
| 2.8. | Bromates | 10 µg/l |  |
| 2.9. | Cadmium | 5.0 µg/l |  |
| 2.10. | Chlorates | 0.25 mg/l | The parameter value of 0.70 mg/l is applied if the disinfection of drinking water is carried out by employing the disinfection method that results in chlorate, in particular chlorine dioxide.  This parameter is only determined if such disinfection methods are employed |
| 2.11. | Chlorites | 0.25 mg/l | The parameter value of 0.70 mg/l is applied if the disinfection of drinking water is carried out by employing the disinfection method that results in chlorite, in particular chlorine dioxide.  This parameter is only determined if such disinfection methods are employed |
| 2.12. | Chrome | 25 µg/l | The indicator value of 25 μg/l is applicable from 12 January 2036.  Until the abovementioned date, the chromium indicator value is 50 μg/l |
| 2.13. | Copper | 2.0 mg/l |  |
| 2.14. | Cyanides | 50 µg/l |  |
| 2.15. | 1,2-dichloroethane | 3.0 µg/l |  |
| 2.16. | Epichlorohydrin | 0.10 µg/l | The indicator value refers to the concentration of monomer residue in water which is calculated by taking into account the maximum release from the respective polymer in contact with water |
| 2.17. | Haloacetic acids (HAA5) | 60 µg/l | The indicator is determined if the disinfection of drinking water is carried out by employing the disinfection methods that can produce haloacetic acids. This is the sum of five representative substances, such as monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid |
| 2.18. | Fluorides | 1.5 mg/l |  |
| 2.19. | Lead | 5 µg/l | The indicator value of 5 μg/l is applicable from 12 January 2036.  Until the abovementioned date, the indicator value is 10 μg/l |
| 2.20. | Mercury | 1.0 µg/l |  |
| 2.21. | Microcystin-LR | 1.0 µg/l | The indicator is only determined if there is a potential for planktonic blooms (which increases the density of cyanobacterial cells or the potential for bloom formation) at the water abstraction site |
| 2.22. | Nickel | 20 µg/l |  |
| 2.23. | Nitrates | 50 mg/l | Nitrates (NO3) (mg/l)/50 + nitrates (NO2) (mg/l)/3 ≤ 1.  After the water treatment, the nitrite content may not exceed 0.10 mg/l |
| 2.24. | Nitrites | 0.50 mg/l | Nitrates (NO3) (mg/l)/50 + nitrates (NO2) (mg/l)/3 ≤ 1.  After the water treatment, the nitrite content may not exceed 0.10 mg/l |
| 2.25. | Pesticides (separately) | 0.10 µg/l | The following plant protection agents shall be treated as a group of pesticides:  a) organic insecticides, organic herbicides;  b) organic fungicides, organic nematocides;  c) organic acaricides, organic algicides;  d) organic rodenticides, organic slimicides;  e) related products (including growth regulators) and metabolites, as specified in Article 3(32) of 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, considering them relevant to drinking water.  Pesticide metabolite is considered to be relevant to drinking water if there are grounds to believe that, from the perspective of the intended effects of the pesticide, it has characteristic properties comparable to those of the substance from which it has originated, or that it or its transformation products pose a risk to consumer health.  The indicator value of 0.10 μg/l is applied to each pesticide separately.  For aldrin, dieldrin, heptachlor, and heptachlor epoxide, the indicator value is 0.030 μg/l.  For water, only those pesticides shall be determined which are likely to be present in the water. |
| 2.26. | Pesticides (total) | 0.50 µg/l | “Pesticides (total)” means the sum of all individual pesticides established and quantitatively determined in the monitoring procedure |
| 2.27. | Polycyclic aromatic hydrocarbons | 0.10 µg/l | The total concentration of the following specific compounds:  a) benzo(b)fluoranthrene;  b) benzo(k)fluoranthrene;  c) benzo(ghi)perylene; and  d) indeno(1,2,3-cd)pyrene. |
| 2.28. | Selenium | 20 µg/l | The value of 30 μg/l can be applied if the risk assessment concludes that a high level of selenium in groundwater has been caused by geological conditions in the region |
| 2.29. | Trachloroethylene and trichloroethene | 10 µg/l | The total concentration of such two parameters |
| 2.30. | Trihalomethanes (total) | 100 µg/l | Sum of concentration of specific substances such as chloroform, bromoform, dibromochloromethane, and bromodichloromethane.  The indicator value should be kept as low as possible, without causing negative impacts on disinfection |
| 2.31. | Vinyl chloride | 0.50 µg/l | The indicator refers to the concentration of monomer residue in water which is calculated by taking into account the maximum release from the respective polymer in contact with water |
| 2.32. | PFAS (total) | 0.50 µg/l | “PFAS (total)” is a set of perfluoroalkyl and polyfluoroalkyl substances |
| 2.33. | PFAS (sum) | 0.10 µg/l | “PFAS (sum)” is the sum of such perfluoroalkyl and polyfluoroalkyl substances that are considered problematic in respect of drinking water and referred to in Paragraph 8 of Annex 4. It is a sub-group of “PFAS (total)” which includes a perfluoroalkyl group with three or more carbon atoms (for example, –CnF2n–, n ≥ 3) or perfluoroalkyl ether groups with two or more carbon atoms (for example, –CnF2nOCmF2m–, n and m ≥ 1) |
| 2.34. | Uranium | 30 µg/l |  |

3. Indicator parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Indicator** | **Maximum Permitted Level** | **Notes** |
| 3.1. | Aluminium | 200 µg/l |  |
| 3.2. | Ammonium | 0.50 mg/l |  |
| 3.3. | Chlorides | 250 mg/l | Water should not be corrosive |
| 3.4. | *Clostridium perfringens*  (including spores) | 0/100 ml | This parameter shall not be measures unless the point of water origin is influenced by surface waters. If there is non-compliance with the indicator, the supply must be investigated in order to ensure that there is no harm to human health caused by the presence of micro-organisms, for example, cryptosporidia. |
| 3.5. | Colour | Acceptable to consumers and without any substantial changes |  |
| 3.6. | Conductivity | 2500 µS cm-1 at 20 °C temperature | Water should not be aggressive |
| 3.7. | Hydrogen ion concentration | ≥ 6.5 and  ≤ 9.5 pH units | Water should not be aggressive.  For non-carbonated packaged drinking water, the permissible norm can be reduced to 4.5 pH units.  For carbonated packaged drinking water that is naturally rich or artificially enriched with carbon dioxide, the minimum permissible norm may be lower |
| 3.8. | Iron | 200 µg/l |  |
| 3.9. | Manganese | 50 µg/l |  |
| 3.10. | Odour | Acceptable to consumers and without any substantial changes |  |
| 3.11. | Oxidizability (KMnO4) | 5.0 mg/l O2 |  |
| 3.12. | Sulphates | 250 mg/l | Water should not be corrosive |
| 3.13. | Sodium | 200 mg/l |  |
| 3.14. | Taste | Acceptable to consumers and without any substantial changes |  |
| 3.15. | Colony count micro-organisms (CFU) 22 °C | 1000/ml |  |
| 3.16. | Coliform bacteria | 0/100 ml | For packaged drinking water, the maximum permissible norm of this indicator is 0/250 ml |
| 3.17. | Turbidity | 3.0 NTU (nephelometric turbidity units) |  |

Notes.

1. Water should be neither aggressive nor corrosive. This particularly applies to water that is being treated (demineralisation, softening, treatment using membrane technology, reverse osmosis, etc.).

2. If, as a result of the treatment of drinking water, water is significantly demineralised or softened, calcium and magnesium salts may be added for the improvement of water in order to reduce any potential negative health effects of water and also to mitigate water corrosion or aggression, and enhance taste. The minimum concentration of calcium and magnesium or total dissolved particulars in softened or demineralised water could be determined by taking into account the water characteristics involved in the abovementioned processes.

4. Indicators of radioactive substances

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Indicator** | **Indicator value1** | **Notes** |
| 4.1. | Radon | 100 Bq/l |  |
| 4.2. | Tritium | 100 Bq/l | If radon concentrations exceed the determined indicator value, another artificial analysis of radionuclides shall be conducted |
| 4.3. | Indicative dose (ID)2 | 0.10 mSv/year | Indicative dose (ID) does not exceed 0,10 mSv annually, if:  1) specific radioactivity of overall alpha radiation sources (total alpha radioactivity) does not exceed 0.1 Bq/l;  2) specific radioactivity of overall beta radiation sources (total beta radioactivity) does not exceed 1 Bq/l |

Notes.

1 The indicator value shall be the value of radioactive substances in drinking water.

2 The indicative dose (ID) shall be the expected effective dose over a period of one year due to the absorption of all radionuclides of both natural and artificial origin the presence of which has been detected in the supplied drinking water, except for tritium, potassium-40, radon and radon decay products, radon decay products with a short semi-decay period.

**Annex 2**

Cabinet Regulation No. 233

9 May 2023

**Drinking Water Monitoring Programme in Food Establishments**

1. Indicators to be determined for a regular monitoring:

1.1. for drinking water that is supplied via centralised water supply systems:

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Notes** |
| 1.1.1. | *Escherichia coli* |  |
| 1.1.2. | Intestinal enterococci |  |

1.2. for drinking water in the food establishment with its own water abstraction site (for example, borehole, well):

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Notes** |
| 1.2.1. | Aluminium | To be determined if used as a chemical for water treatment; in other cases, it is determined in audit monitoring |
| 1.2.2. | Ammonium | To be determined if chloramination is used for disinfection |
| 1.2.3. | Iron | To be determined if used as a chemical for water treatment; in other cases, it is determined in audit monitoring |
| 1.2.4. | Turbidity |  |
| 1.2.5. | *Escherichia coli* |  |
| 1.2.6. | Taste |  |
| 1.2.7. | Colony count micro-organisms (CFU) 22 °C |  |
| 1.2.8. | Colour |  |
| 1.2.9. | Nitrites | It shall be determined if chloramination is used for disinfection; in other cases it shall be determined in audit monitoring |
| 1.2.10. | Odour |  |
| 1.2.11. | Conductivity |  |
| 1.2.12. | Coliform bacteria |  |
| 1.2.13. | Hydrogen ion concentration (pH) |  |

2. Indicators to be determined in audit monitoring

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Notes** |
| 2.1. | Aluminium | It shall be determined if not tested in a regular monitoring |
| 2.2. | Iron |  |
| 2.3. | Nitrites | It shall be determined if not tested in a regular monitoring |
| 2.4. | *Clostridium perfringens* (including spores) | This parameter should be determined if the risk assessment shows that doing so is appropriate |
| 2.5. | Chlorides |  |
| 2.6. | Manganese |  |
| 2.7. | Sulphates |  |
| 2.8. | Arsenic |  |
| 2.9. | Boron |  |
| 2.10. | Fluorides |  |
| 2.11. | Chrome |  |
| 2.12. | Selenium |  |
| 2.13. | Antimony |  |
| 2.14. | Benzene |  |
| 2.15. | Benzo(a)pyrene |  |
| 2.16. | Bromates |  |
| 2.17. | Cyanides |  |
| 2.18. | 1,2-dichloroethane |  |
| 2.19. | Mercury |  |
| 2.20. | Cadmium |  |
| 2.21. | Nickel |  |
| 2.22. | Nitrates |  |
| 2.23. | Polycyclic aromatic hydrocarbons |  |
| 2.24. | Lead |  |
| 2.25. | Trachloroethylene and trichloroethene |  |
| 2.26. | Trihalomethanes |  |
| 2.27. | Copper |  |
| 2.28. | Sodium |  |
| 2.29. | Oxidizability (KMnO4) |  |
| 2.30. | Pesticides (separately) | Only those pesticides shall be determined which are likely to be present |
| 2.31. | Pesticides (total) |  |
| 2.32. | Acrylamide, vinyl chloride, epichlorohydrin | Inspected according to a product specifications |
| 2.33. | Microcystin-LR | The indicator is only determined if there is a potential for planktonic blooms (which increases the density of cyanobacterial cells or the potential for bloom formation) at the water abstraction site |
| 2.34. | Bisphenol A |  |
| 2.35. | Chlorates | The parameter is only determined if the disinfection of drinking water is carried out by employing the disinfection method that results in chlorate, in particular chlorine dioxide |
| 2.36. | Chlorites | The parameter is only determined if the disinfection of drinking water is carried out by employing the disinfection method that results in chlorite, in particular chlorine dioxide |
| 2.37. | Haloacetic acids (HAA5) | The indicator is determined if the disinfection of drinking water is carried out by employing the disinfection methods that can produce haloacetic acids |

3. Indicators of radioactive substances to be determined in drinking water

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Notes** |
| 3.1. | Radon | To be determined when starting to use a new water abstraction site |
| 3.2. | Indicative dose (ID) | To be determined when starting to use a new water abstraction site |

**Annex 3**

Cabinet Regulation No. 233

9 May 2023

**Minimum Frequency of Sampling and Analyses of Drinking Water for the Monitoring Programme in Food Establishments**

1. Frequency of sampling in food establishments, except for retail establishments:

1.1. for drinking water that is supplied via centralised water supply systems:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Food establishment** | **Frequency of sampling (number of samples per year) for regular monitoring** | **Frequency of sampling (number of samples per year) for audit monitoring** |
| 1.1.1. | A honey packaging undertaking, a grain processing, refining, and packaging undertaking, a bread and bread product production undertaking, a primary manufacturing establishment of products of plant origin if drinking water is used in the product processing, a fatty substance production undertaking | Once every two years | Not required |
| 1.1.2. | An establishment where drinking water is used as a component of food products | Once every two years | Not required |
| 1.1.3. | An establishment where drinking water is not used as a component of food products | Once every two years | Not required |
| 1.1.4. | An establishment where drinking water is filled in bottles | Once every two years | Not required |

1.2. for drinking water in the food establishment with its own water abstraction site (for example, borehole, well):

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Food establishment** | **Frequency of sampling (number of samples per year) for regular monitoring** | **Frequency of sampling (number of samples per year) for audit monitoring** |
| 1.2.1. | A honey packaging undertaking,  a grain processing, refining, and packaging undertaking,  a bread and bread product production undertaking,  a primary manufacturing establishment of products of plant origin if drinking water is used in the product processing,  a fatty substance production undertaking | Once every two years | Not required |
| 1.2.2. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is up to 100 m3 per year | Once a year | Once every six-year period1 |
| 1.2.3. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is from 101 to 1000 m3 per year | Four times a year | Once a year |
| 1.2.4. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is from 1001 to 10 000 m3 per year | Four times a year  +3 from each 1000 m3/d in proportion to the part thereof of the total volume | Once a year  +1 from each 4500 m3/d in proportion to the part thereof of the total volume |
| 1.2.5. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is from 10 001 to 100 000 m3 per year | Four times a year  +3 from each 1000 m3/d in proportion to the part thereof of the total volume | Three times a year  +1 from each 10000 m3/d in proportion to the part thereof of the total volume |
| 1.2.6. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is more than100 000 m3 per year | Four times a year  +3 from each 1000 m3/d in proportion to the part thereof of the total volume | Twelve times a year  +1 from each 25 000 m3/d in proportion to the part thereof of the total volume |
| 1.2.7. | An establishment where drinking water is not used as a component of food products | Once every two years | Not required |

2. Frequency of sampling in retail establishments:

2.1. for drinking water that is supplied via centralised water supply systems:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Food establishment** | **Frequency of sampling (number of samples per year) for regular monitoring** | **Frequency of sampling (number of samples per year) for audit monitoring** |
| 2.1.1. | An establishment where drinking water is used as a component of food products | Once every two years | Not required |
| 2.1.2. | An establishment where drinking water is not used as a component of food products but in food production, preparation, or processing, food comes into direct contact with drinking water (for example, washing products, etc.) | Once every two years | Not required |
| 2.1.3. | An establishment where drinking water is only used for preparing hot beverages, for example, coffee and tea | Not required | Not required |
| 2.1.4. | An establishment where, when handling food, it does not come into direct contact with drinking water (for example, serving of food, trade of packaged products, heating of food, thermal processing of pre-prepared food, etc.) | Not required | Not required |

2.2. drinking water in a retail establishment with its own water abstraction site (for example, borehole, well):

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Food establishment** | **Frequency of sampling (number of samples per year) for regular monitoring** | **Frequency of sampling (number of samples per year) for audit monitoring** |
| 2.2.1. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is up to 100 m3 per year | Once a year | Once every six-year period1 |
| 2.2.2. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is from 101 to 1000 m3 per year | Four times a year | Once a year |
| 2.2.3. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is from 1001 to 10 000 m3 per year | Four times a year  +3 from each 1000 m3/d in proportion to the part thereof of the total volume | Once a year  +1 from each 4500 m3/d in proportion to the part thereof of the total volume |
| 2.2.4. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is from 10 001 to 100 000 m3 per year | Four times a year  +3 from each 1000 m3/d in proportion to the part thereof of the total volume | Three times a year  +1 from each 10000 m3/d in proportion to the part thereof of the total volume |
| 2.2.5. | An establishment where drinking water is used as a component of food products if the average daily quantity of supplied (filled) water is more than100 000 m3 per year | Four times a year  +3 from each 1000 m3/d in proportion to the part thereof of the total volume | Twelve times a year  +1 from each 25 000 m3/d in proportion to the part thereof of the total volume |
| 2.2.6. | An establishment where drinking water is not used as a component of food products but in food production, preparation, or processing, food comes into direct contact with drinking water (for example, washing products, etc.) | Once every two years | Not required |
| 2.2.7. | An establishment where drinking water is only used for preparing hot beverages, for example, coffee and tea (the average daily quantity of supplied (filled) water is up to 100 m3 per year) | Once a year | Once every six-year period1 |
| 2.2.8. | An establishment where, when handling food, it does not come into direct contact with drinking water (for example, serving of food, trade of packaged products, heating of food, thermal processing of pre-prepared food, etc.) | Not required | Not required |

Notes.

1Audit monitoring can be carried out either within a one-year period or every year in such a way that all parameters of audit monitoring are determined within a six-year period.

3. The minimum frequency of water sampling and analyses for the determination of indicators of radioactive substances if it is started to use a new water abstraction site and there are discrepancies:

|  |  |  |
| --- | --- | --- |
| **No.** | **Average daily amount of water supplied or filled in a supply zone per yeara, b (m3)** | **Quantity of samplesc, d per year** |
| 3.1. | For water in a food establishment: | 1 |
| 3.1.1. | up to 100 | 1 |
| 3.1.2. | 101–1000 | 1 |
| 3.1.3. | 1001–10 000 | 1  + 1 from each 3300 m3/d in proportion to the part thereof of the total volume |
| 3.1.4. | 10 001–100 000 | 3  + 1 from each 10 000 m3/d in proportion to the part thereof of the total volume |
| 3.1.5. | more than 100 000 | 10  + 1 from each 25 000 m3/d in proportion to the part thereof of the total volume |
| 3.2. | For drinking water filled in bottles or other containers intended for sale | 1 |

Notes.

a A supply zone is a geographically defined area in which drinking water is supplied from one or several resources and in which the quality of drinking water is considered as being equal.

b Quantity is calculated as average volumes within a calendar year.

c As far as possible, the quantity of samples must be distributed equally in time and location.

d Samples shall be taken regularly so that that the results of analyses would characterise the average annual indicator values of radioactive substances determined for drinking water.

**Annex 4**

Cabinet Regulation No. 233

9 May 2023

**Methods for the Determination of Harmlessness and Quality Parameters of Drinking Water to be Used in a Food Establishment**

Methods of analysis which are employed when monitoring and demonstrating conformity with the requirements of this Regulation, except for turbidity, shall be validated and documented in accordance with the standard LVS EN ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories, or other equivalent internationally accepted standards. Laboratories or persons contracted by laboratories shall apply the methodology of quality management system in accordance with the standard LVS EN ISO/IEC 17025 or other equivalent internationally accepted standards.

In order to assess whether alternative methods are equivalent to the methods specified in this Annex, the standard LVS EN ISO 17994, Water quality. Requirements for the comparison of the relative recovery of microorganisms by two quantitative methods, or the standard EN ISO 16140, Microbiology of the food chain. Method validation, or any similar internationally agreed protocols may be used to determine the equivalence of methods based on principles that are not cultivation and are not covered by the scope of standard LVS EN ISO 17994.

If there are no analytical methods that meet the minimum performance criteria specified in Paragraph 2 of this Annex, monitoring shall be carried out, using the best available techniques that are not associated with excessive costs.

1. Parameters for which particular methods of analysis have been determined

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Method** |
| 1.1. | Coliform bacteria and *Escherichia coli* | LVS EN ISO 9308-1,  LVS EN ISO 9308-2  Water quality. Detection and enumeration of *Escherichia coli* and coliform bacteria. Part 1: Membrane filtration method. Part 2: Most probable number method” |
| 1.2. | Intestinal enterococci | LVS EN ISO 7899-2  Water quality. Detection and enumeration of intestinal enterococci. Part 2: Membrane filtration method |
| 1.3. | Colony-forming unit (CFU) or  colony count heterotrophic organisms at 22°C | LVS EN ISO 6222  “Water quality. Enumeration of culturable micro-organisms. Colony count by inoculation in a nutrient agar culture medium” |
| 1.4. | *Clostridium perfringens*, including spores | LVS EN ISO 14189  Water *Clostridium perfringens* quality. Enumeration of bacteria. Method using membrane filtration |

2. Minimum indicators of the performance criterion “Uncertainty of measurements”:

|  |  |  |
| --- | --- | --- |
| **No.** | **Indicator** | **Uncertainty of measurement1, 2, 3**  **% of the parameter value (except in relation to pH)** |
| 2.1. | Aluminium | 25 |
| 2.2. | Ammonium | 40 |
| 2.3. | Acrylamide | 30 |
| 2.4. | Antimony | 40 |
| 2.5. | Arsenic | 30 |
| 2.6. | Benzo(a)pyrene4 | 50 |
| 2.7. | Benzene | 40 |
| 2.8. | Bisphenol A | 50 |
| 2.9. | Boron | 25 |
| 2.10. | Bromates | 40 |
| 2.11. | Cadmium | 25 |
| 2.12. | Chlorides | 15 |
| 2.13. | Chlorates | 40 |
| 2.14. | Chlorites | 40 |
| 2.15. | Chrome | 30 |
| 2.16. | Copper | 25 |
| 2.17. | Cyanides5 | 30 |
| 2.18. | 1,2-dichloroethane | 40 |
| 2.19. | Epichlorohydrin | 30 |
| 2.20. | Fluorides | 20 |
| 2.21. | HAA | 50 |
| 2.22. | Hydrogen ion6 concentration pH | 0.2 |
| 2.23. | Iron | 30 |
| 2.24. | Lead | 30 |
| 2.25. | Manganese | 30 |
| 2.26. | Mercury | 30 |
| 2.27. | Microcystin-LR | 30 |
| 2.28. | Nickel | 25 |
| 2.29. | Nitrates | 15 |
| 2.30. | Nitrites | 20 |
| 2.31. | Oxidizability7 | 50 |
| 2.32. | Pesticides8 | 30 |
| 2.33. | Polycyclic aromatic hydrocarbons9 | 40 |
| 2.34. | Selenium | 40 |
| 2.35. | Sodium | 15 |
| 2.36. | Sulphates | 15 |
| 2.37. | Tetrachloroethylene10 | 40 |
| 2.38. | Trichloroethane10 | 40 |
| 2.39. | Trihalomethanes9 (total) | 40 |
| 2.40. | Turbidity11 | 30 |
| 2.41. | Vinyl chloride | 50 |

Notes.

1 The uncertainty of measurements shall be a negative parameter, characterising the extent of dispersion of values that, based on the information used, are attributed to a measurement value. The performance criterion “Uncertainty of measurement” (k = 2) shall be the percentage of the parameter value or any stricter value indicated in the table. The uncertainty of measurements shall be assessed at the level of the parameter value, unless it is specified otherwise.

2 The limit of quantitation of the used methods of analysis (the least concentration that may be determined quantitatively for which an uncertainty of measurements has been assessed) shall be ≤ 30% of the normative value laid down for the indicator. In addition, uncertainty shall not exceed that specified in Paragraph 2 of this Regulation.

3 The criteria indicated for the parameters laid down in Paragraph 2 of this Regulation shall be such as to ensure the possibility, with the help of the used method of analysis, to at least measure the concentration which is equivalent to the parameter value with the limit of quantitation and is equal to 30 % of the respective parameter value or less, and the uncertainty of measurements indicated in Paragraph 2 of this Annex.

4 If it is not possible to achieve the value of the uncertainty of measurements, it is recommended to select the best available method (up to 60 %).

5 Total amount of cyanide in all forms thereof shall be determined by using this method.

6 The values of uncertainty of measurements shall be expressed in pH units.

7 Reference method: standard LVS EN ISO 8467 L.

8 Performance criteria of certain pesticides shall be specified indicatively. In relation to certain pesticides it is possible to achieve the value of the uncertainty of measurements in the amount of 30 %; higher values may be permitted in relation to multiple pesticides – up to 80 %.

9Performance criteria shall apply to individual substances and account for 25 % of the values specified in Paragraph 2 of Annex 1.

10Performance criteria shall apply to individual substances and account for 50 % of the values specified in Paragraph 2 of Annex 1.

11It shall be recommended to determine the uncertainty of measurements in accordance with standard LVS EN ISO 7027-1, Water quality. Determination of turbidity, or another equivalent standard method at a level of 1.0 NTU (nephelometric turbidity units).

3. Samples of drinking water shall be taken and transported to the laboratory in accordance with the standards LVS EN ISO 5667-3, Water Quality – Sampling – Part 3: Guidance on the preservation and handling of samples and LVS ISO 5667-5, Water quality. Sampling. Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems”.

4. The methods for assessing the indicators of radioactive substances:

4.1. assessment of indicator values of the indicative dose (ID):

4.1.1. overall alpha radioactivity and overall beta radioactivity determination value shall be used in order to assess indicative dose (ID). Overall beta radioactivity value may be replaced by the remaining beta radioactivity value after K-40 radioactivity value is subtracted;

4.1.2. if specific radioactivity of overall alpha radiation sources does not exceed 0.1 Bq/l and specific radioactivity of overall beta radiation sources does not exceed 1 Bq/l, the indicative dose (ID) shall be less than the indicator value of 0.1 mSv per year. In such case a more extensive inspection is not required, unless it is known that radionuclides are present in water supply due to which the indicative dose (ID) of 0.1 mSv per year may be exceeded;

4.1.3. if specific radioactivity of overall alpha radiation sources exceeds 0.1 Bq/l or specific radioactivity of overall beta radiation sources exceeds 1 Bq/l, a specific analysis of radionuclides shall be conducted. Radionuclides subject to measurement shall be determined by the Food and Veterinary Service in cooperation with the Radiation Safety Centre of the State Environmental Service by taking into account substantial information on potential radioactivity sources;

4.1.4. specific radioactivity of overall alpha radiation and specific radioactivity of overall beta radiation for tritium shall be measured in one and the same sample;

4.2. calculation of the indicative dose (ID):

4.2.1. indicative dose (ID) shall be calculated based on the measured radionuclide concentration and the expected effective dose (Sv/Bq) for inhabitants laid down in the laws and regulations regarding protection against ionising radiation, if radionuclides are assimilated with food or water, presuming that annual water consumption of an adult is 730 litres. The indicative dose (ID) shall be less than the indicator value of 0.1 mSv and additional inspection is not required, if the following relationship is in effect,

where:

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Description automatically generated]()

Ci(nov) – observed concentration of radionuclide i;

Ci(atv) – derived concentration of radionuclide as determined in Paragraph 7 of Annex 4 to this Regulation;

n – the number of radionuclides detected.

5. Efficiency characterisation and methods of analysis:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Indicators and radionuclides** | **Sensitivity limitC; D** | **Notes** |
| 5.1. | Tritium | 10 Bq/l | The limit of determination of tritium is 10% of its indicator value of 100 Bq/l |
| 5.2. | Radon | 10 Bq/l | The limit of determination of radon is 10% of its indicator value of 100 Bq/l |
| 5.3. | Specific radioactivity of overall alpha radiation sources | 0.04 Bq/l | The sensitivity level of specific radioactivity of overall alpha radiation sources is 40% of its indicator value of 0.1 Bq/l |
| 5.4. | Specific radioactivity of overall beta radiation sources | 0.4 Bq/l | The sensitivity level of specific radioactivity of overall beta radiation sources is 40 % of its indicator value of 1.0 Bq/l |
| 5.5. | U-238 | 0.02 Bq/l |  |
| 5.6. | U-234 | 0.02 Bq/l |  |
| 5.7. | Ra-226 | 0.04 Bq/l |  |
| 5.8. | Ra-228 | 0.02 Bq/l | The sensitivity level shall be only attributed to initial indicative dose (ID) control in a new water source. If, as a result of the initial inspection, slight evidence is obtained for the fact that Ra-228 would exceed 20 % of the derived concentration, the sensitivity level may be increased up to 0.08 Bq/l.  special measurements of Ra-228 radionuclides until repeated inspection is necessary |
| 5.9. | Pb-210 | 0.02 Bq/l |  |
| 5.10. | Po-210 | 0.01 Bq/l |  |
| 5.11. | C-14 | 20 Bq/l |  |
| 5.12. | Sr-90 | 0.4 Bq/l |  |
| 5.13. | Pu-239/Pu-240 | 0.04 Bq/l |  |
| 5.14. | Am-241 | 0.06 Bq/l |  |
| 5.15. | Co-60 | 0.5 Bq/l |  |
| 5.16. | Cs-134 | 0.5 Bq/l |  |
| 5.17. | Cs-137 | 0.5 Bq/l |  |
| 5.18. | I-131 | 0.5 Bq/l |  |

Notes.

C The sensitivity level shall be calculated in accordance with standard LVS ISO 11929, Determination of the characteristic limits (decision threshold, detection limit and limits of the confidence interval) for measurements of ionising radiation. Fundamentals and application.

DThe uncertainty of measurements shall be calculated and reported as a complete standard uncertainty or as an extended standard uncertainty with an extension coefficient of 1.96.

6. Derived concentration of radioactivity in drinking water:

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Origin of radionuclide** | **RadionuclideA** | **Derived concentration** |
| 6.1. | natural | U-238B | 3.0 Bq/l |
| 6.2. | natural | U-234B | 2.8 Bq/l |
| 6.3. | natural | Ra-226 | 0.5 Bq/l |
| 6.4. | natural | Ra-228 | 0.2 Bq/l |
| 6.5. | natural | Pb-210 | 0.2 Bq/l |
| 6.6. | natural | Po-210 | 0.1 Bq/l |
| 6.7. | artificial | C-14 | 240 Bq/l |
| 6.8. | artificial | Sr-90 | 4.9 Bq/l |
| 6.9. | artificial | Pu-239/Pu-240 | 0.6 Bq/l |
| 6.10. | artificial | Am-241 | 0.7 Bq/l |
| 6.11. | artificial | Co-60 | 40 Bq/l |
| 6.12. | artificial | Cs-134 | 7.2 Bq/l |
| 6.13. | artificial | Cs-137 | 11 Bq/l |
| 6.14. | artificial | I-131 | 6.2 Bq/l |

Notes.

A The Table contains the most common values of natural and artificial radionuclides which are accurate values calculated per dose of 0.1 mSv, presuming that annual water consumption of an adult is 730 litres, and also by using the expected effective dose (Sv/Bq) for inhabitants specified in the laws and regulations regarding protection against ionising radiation, if radionuclides are assimilated with food or water. The derived concentration of other radionuclides may be calculated in the same way.

B Only uranium radioactivity, other than its chemical toxicity, is specified in the Table.

8. PFAS sum

— 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)

— Perfluorobutanesulfonic acid (PFBS)

— Perfluoropentanesulfonic acid (PFPS)

— Perfluorohexanesulfonic acid (PFHxS)

— Perfluoroheptanesulfonic acid (PFHpS)

— Perfluorooctanesulfonic acid (PFOS)

— Perfluorononanesulfonic acid (PFNS)

— Perfluorodecanesulfonic acid (PFDS)

— Perfluoroundecanesulfonic acid

— Perfluorododecanesulfonic acid

— Perfluorotridecanesulfonic acid

The abovementioned substances shall be monitored if it is concluded in the risk assessment that these substances could be present in the respective water supply.