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Ordinance on the Quality of Water Intended for Human Consumption

(Trinkwasserverordnung – TrinkwV)

Drinking Water Ordinance of 20 June 2023 (Federal Law Gazette 2023 I No. 159)
The Ordinance was adopted by the Federal Ministry of Health in agreement with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, by the Federal Ministry of Food and Agriculture in agreement with the Federal Ministry for Economic Affairs and Climate Action, by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, by the Federal Ministry for Digital and Transport and by the Federal Ministry of Defence, with the approval of the Bundesrat, as Article 1 of the Ordinance of 20 June 2023 I No. 159. Pursuant to Article 5 sentence 1 of that Ordinance, it enters into force on 24 June 2023.

Division 1 General provisions

Section 1 Scope of application

(1) This Ordinance applies to water intended for human consumption as defined in Division 7 of the Protection Against Infection Act (*Infektionsschutzgesetz*).

(2) This Ordinance does not apply to

1. natural mineral water within the meaning of section 2 of the Mineral and Table Water Ordinance (*Mineral- und Tafelwasser-Verordnung*),
2. water which is a medicinal product within the meaning of section 2 of the Medicinal Products Act (*Arzneimittelgesetz*),
3. swimming and bathing pool water,
4. water which is downstream of a safety device required in accordance with the generally recognised codes of practice and standards in water-bearing apparatus which is terminally connected to a drinking water installation but which, in accordance with the generally recognised codes of practice and standards, is not part of that drinking water installation and
5. water for whose use authorisation has been granted as required by section 3a (2) of the Food Hygiene Ordinance (*Lebensmittelhygiene-Verordnung*).

(3) In accordance with the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 (Federal Law Gazette 1994 II, p. 1798, p. 1799; 1997 II, p. 1402), this Ordinance also applies within the German Exclusive Economic Zone.

Section 2

Definitions

For the purposes of this Ordinance,

1. 'drinking water' means water intended for human consumption in its original state or after treatment, regardless of the aggregate state of the water and regardless of whether it is supplied through pipeworks, from vehicles for transporting water, from drinking water storage containers, on offshore constructions, on board landcraft, watercraft or aircraft or in sealed containers and which
 - a) is intended for use for the following purposes:
 - aa) for drinking,
 - bb) for cooking and preparing food and drink,
 - cc) for personal care and hygiene,
 - dd) for cleaning objects intended to come into contact with food,
 - ee) for cleaning objects intended to come into contact with the human body on more than a temporary basis or
 - ff) for other domestic purposes relevant to human health or
 - b) is used in food businesses for the manufacture, processing, preservation or marketing of products or substances intended for human consumption;
2. 'water supply systems' means
 - a) centralised water supply systems: systems, including the related water abstraction systems and a related pipeline network, from which at least 10 cubic metres of drinking water is extracted or supplied to intermediate customers through fixed pipeworks per day or from which drinking water is supplied to at least 50 persons through fixed pipeworks;
 - b) decentralised water supply systems: systems, including the related water abstraction systems and a related pipeline network, from which less than 10 cubic metres of drinking water is extracted per day, or which are used as part of a commercial or public activity but which do not constitute a centralised water supply system or an individual water supply system;
 - c) individual water supply systems: systems, including the related water abstraction systems and a related drinking water installation, from which less than 10 cubic metres of drinking water is extracted per day for individual use;
 - d) mobile water supply systems: moveable systems from which drinking water is abstracted, including systems on board landcraft, watercraft and aircraft, as well as systems from which drinking water is drawn on offshore constructions, in each instance including the drinking water installation and any water abstraction systems;
 - e) building water supply systems: systems from which drinking water transferred from a centralised water supply system or from a decentralised water supply system is supplied to consumers via a drinking water installation and
 - f) temporary water supply systems: systems from which drinking water is drawn or is supplied to consumers and which

- aa) are operated intermittently, including a related water abstraction system and a related drinking water installation, or
 - bb) are intermittently connected to a centralised water supply system, a decentralised water supply system, a mobile water supply system or a building water supply system;
3. 'operator' means an entrepreneur or other owner of a water supply system;
4. 'drinking water installation' means all those drinking water pipes, drinking water storage containers, appliances and fixtures in a water supply system which are located between the drinking water draw-off points and
- a) the point from which the drinking water supplied through the water supply system or, where it undergoes treatment, from which the treated drinking water is transmitted to the drinking water draw-off points or
 - b) the point at which the drinking water is drawn from another water supply system;
5. 'water supply zone' means a geographically defined area in which
- a) the drinking water supplied to consumers or to intermediate customers originates from one or more sources and
 - b) the expectable drinking water quality can be regarded as close to uniform;
6. 'raw water' means water abstracted from a source using a water abstraction system which
- a) is to be directly treated for use as drinking water or
 - b) is to be distributed without undergoing treatment for use as drinking water;
7. 'treatment agents' means substances and filter media intended to influence the quality of the raw water or drinking water for the treatment purposes referred to in section 18;
8. 'commercial activity' means the direct or indirect targeted supply of drinking water under a lease or another independent, regular and for-profit activity;
9. 'public activity' means the supply of drinking water to an indefinite and changing group of persons who have no personal relationship with the person supplying the drinking water;
10. 'non-drinking water system' means a system installed in addition to a drinking water installation and
- a) which serves the abstraction of water not intended for the purposes referred to in no. 1 or
 - b) in which water not intended for the purposes referred to in no. 1 is circulated.

Section 3

References to technical standards

(1) Unless provided otherwise, provisions which make reference to DIN German Industry Standards or to international standards refer to the following editions in each instance:

- 1. DIN 38404-10, December 2012 edition of DIN 38404-10, German standard methods for the examination of water, waste water and sludge – Physical and physico-

chemical parameters (group C) – Part 10: Calculation of the calcite saturation of water (C 10),

2. DIN EN 1484, April 2019 edition of DIN EN 1484, Water analysis – Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC),
3. DIN EN 1622, October 2006 edition of DIN EN 1622, Water quality; Determination of the threshold odour number (TON) and threshold flavour number (TFN),
4. DIN EN 15975-2, December 2013 edition of DIN EN 15975-2, Security of drinking water supply – Guidelines for risk and crisis management – Part 2: Risk management,
5. DIN EN 27888, November 1993 edition of DIN EN 27888, Water quality – determination of electrical conductivity,
6. DIN EN ISO 6222, July 1999 edition of DIN EN ISO 6222, Water quality – Enumeration of culturable micro-organisms – Colony count by inoculation in a nutrient agar culture medium,
7. DIN EN ISO 7027-1, November 2016 edition of DIN EN ISO 7027-1, Water quality – Determination of turbidity – Part 1: Quantitative methods,
8. DIN EN ISO 7899-2, November 2000 edition of DIN EN ISO 7899-2, Water quality – Detection and enumeration of intestinal enterococci – Part 2: Membrane filtration method,
9. DIN EN ISO 8467, May 1995 edition of DIN EN ISO 8467, Water quality – Determination of permanganate index,
10. DIN EN ISO 9308-1, September 2017 edition of DIN EN ISO 9308-1, Water quality – Enumeration of *Escherichia coli* and coliform bacteria – Part 1: Membrane filtration method for waters with low bacterial background flora,
11. DIN EN ISO 9308-2, June 2014 edition of DIN EN ISO 9308-2, Water quality – Enumeration of *Escherichia coli* and coliform bacteria – Part 2: Most probable number method,
12. DIN EN ISO 10705-2, January 2002 edition of DIN EN ISO 10705-2, Water quality – Detection and enumeration of bacteriophages – Part 2: Enumeration of somatic coliphages,
13. DIN EN ISO 11731, March 2019 edition of DIN EN ISO 11731, Water quality – Enumeration of *Legionella*,
14. DIN EN ISO 11929-1, November 2021 edition of DIN EN ISO 11929-1, Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation – Fundamentals and application – Part 1: Elementary applications,
15. DIN EN ISO 11929-2, November 2021 edition of DIN EN ISO 11929-2, Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation – Fundamentals and application – Part 2: Advanced applications,
16. DIN EN ISO 11929-3, November 2021 edition of DIN EN ISO 11929-3, Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation – Fundamentals and application – Part 3: Applications to unfolding methods,

17. DIN EN ISO 14189, November 2016 edition of DIN EN ISO 14189, Water quality – Enumeration of *Clostridium perfringens* – Method using membrane filtration,

18. DIN EN ISO 16266, May 2008 edition of DIN EN ISO 16266, Water quality – Detection and enumeration of *Pseudomonas aeruginosa* – Method by membrane filtration,

19. DIN EN ISO 19458, December 2006 edition of DIN EN ISO 19458, Water quality – Sampling for microbiological analysis,

20. DIN ISO 5667-5, February 2011 edition of DIN ISO 5667-5, Water quality – Sampling – Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems and

21. ISO 10705-3, October 2003 edition of ISO 10705-3, Water quality – Detection and enumeration of bacteriophages – Part 3: Validation of methods for concentration of bacteriophages from water.

(2) The editions of the technical standards cited in subsection (1) can be purchased from Beuth-Verlag GmbH in Berlin and are archived in the German National Library in Leipzig.

Section 4 Enforcement

The authorities' competence for the enforcement of this Ordinance follows from sections 54 to 54b of the Protection Against Infection Act, unless tasks are assigned directly to specific federal authorities under this Ordinance.

Division 2 Drinking water quality

Section 5 General requirements

The requirements for the quality of drinking water under section 37 (1) of the Protection Against Infection Act are deemed to be met where

1. the generally recognised codes of practice and standards are complied with, at a minimum, during drinking water abstraction, drinking water treatment and drinking water distribution, including water storage,
2. the drinking water meets the requirements of sections 6 to 9 and
3. it is clean and wholesome.

Section 6 Microbiological requirements

(1) Drinking water may not contain concentrations of pathogens within the meaning of section 2 no. 1 of the Protection Against Infection Act which are transmissible via drinking water and give cause for concern about adverse effects on human health.

(2) The limit values for microbiological parameters laid down in Annex 1 Part I may not be exceeded in drinking water.

(3) The limit values for microbiological parameters laid down in Annex 1 Part II may not be exceeded in drinking water intended to be supplied in sealed containers.

(4) If the public health office becomes aware that the drinking water in a water supply zone contains microorganisms which give cause for concern about adverse effects on human health and for which no limit value has been laid down in this Ordinance, then, giving due consideration to subsection (1), the public health office determines a maximum value for the affected water supply zone which may not be exceeded.

(5) Concentrations of microorganisms which may contaminate the drinking water or adversely affect its quality must be kept as low as is possible using efforts which are

reasonable in the particular case and in compliance with, at a minimum, the generally recognised codes of practice and standards.

Section 7

Chemical requirements

- (1) Drinking water may not contain concentrations of chemical substances which give cause for concern about adverse effects on human health.
- (2) The limit values for chemical parameters laid down in Annex 2 may not be exceeded in drinking water.
- (3) If the public health office becomes aware that the drinking water in a water supply zone contains chemical substances which give cause for concern about adverse effects on human health and for which no limit value has been laid down in this Ordinance, then, giving due consideration to subsection (1), the public health office determines a maximum value for the affected water supply zone which may not be exceeded.
- (4) Concentrations of chemical substances which may contaminate drinking water or adversely affect its quality must be kept as low as is possible using efforts which are reasonable in the particular case and in compliance, at a minimum, with the generally recognised codes of practice and standards.

Section 8

Requirements for indicator parameters

- (1) The limit values and requirements for indicator parameters laid down in Annex 3 must be complied with in drinking water. This does not apply to the technical action value for *Legionella spec.* in Annex 3 Part II and to the reference value for somatic coliphages in Annex 3 Part III.
- (2) The limit value for the parameter coliform bacteria laid down in Annex 3 Part I may not be exceeded in drinking water intended to be supplied in sealed containers.
- (3) Drinking water should not be corrosive. The assessment of whether drinking water is corrosive in relation to those materials with which it comes into contact is conducted in accordance with the generally recognised codes of practice and standards and in particular with regard to the following indicator parameters:
 1. calcite dissolution capacity,
 2. chloride,
 3. electrical conductivity,
 4. sulphate and
 5. hydrogen ion concentration.

Section 9

Radiological requirement

Drinking water may have no substances containing one or more radionuclides whose activity or concentration cannot be disregarded from the perspective of radiation protection. This requirement is deemed to be met where the parametric values for radioactive substances laid down in Annex 4 Part I are not exceeded.

Section 10

Point of compliance

The requirements for drinking water quality under sections 6 to 9 must be complied with at the following point:

1. in the case of drinking water supplied through pipeworks on land or in buildings and facilities, on offshore constructions or on board landcraft, watercraft or aircraft, at the point where it emerges from the drinking water draw-off points,

2. in the case of drinking water in an appliance connected to the drinking water installation which, in accordance with the generally recognised codes of practice and standards, does not form part of the drinking water installation, at the safety device required in accordance with the generally recognised codes of practice and standards,
3. in the case of drinking water supplied from vehicles transporting water, at the vehicle's drinking water draw-off point,
4. in the case of drinking water intended to be supplied in sealed containers, at the point at which the drinking water is put into containers and
5. in the case of drinking water used in food businesses, at the point at which the drinking water is used.

Division 3

Obligations to notify in relation to water supply systems and non-drinking water systems

Section 11

Obligations to notify in relation to water supply systems

(1) Operators of centralised water supply systems, of decentralised water supply systems, of individual supply systems or, where drinking water is supplied as part of a public activity, of building water supply systems are required to notify the public health office, in writing or electronically, of the following:

1. the construction of a water supply system,
2. the commissioning and re-commissioning of a water supply system,
3. the making of structural or operational modifications to sections of a water supply system through which drinking water passes if such modifications can have a significant impact on the quality of the drinking water,
4. the transfer, to another person, of ownership or the right of use of a water supply system,
5. the decommissioning of a water supply system or sections of a water supply system.

In the cases referred to in sentence 1 nos. 1 to 3, notification is to be given at the latest four weeks before the start of the action, in the case referred to in sentence 1 no. 4 at the latest four weeks prior to the transfer of ownership or the right of use and, in the case referred to in sentence 1 no. 5, within three days after decommissioning. In derogation from sentence 2, notification in the cases referred to in sentence 1 nos. 1 to 5 is to be made without delay after obtaining knowledge of the notifiable circumstance if such knowledge is not obtained until after the expiry of the respective deadlines referred to in sentence 2 for such cases.

(2) Operators of mobile water supply systems through which drinking water is supplied as part of a commercial or public activity are required to notify the public health office of the following:

1. the commissioning and re-commissioning of a water supply system,
2. the making of structural or operational modifications to sections of a water supply system through which the drinking water passes if such modifications can have a significant impact on the quality of the drinking water,
3. the transfer, to another person, of ownership or the right of use of a water supply system if, under the terms of section 54b of the Protection Against Infection Act, responsibility for monitoring the water supply system is incumbent on the Federal Railway Authority and

4. the decommissioning of a water supply system or sections of a water supply system.

In the cases referred to in sentence 1 nos. 1 and 2, notification is to be given at the latest four weeks before the start of the action, in the case referred to in sentence 1 no. 3 at the latest four weeks prior to the transfer of ownership or the right of use and, in the case referred to in sentence 1 no. 4, within three days after decommissioning. In derogation from sentence 2, notification in the cases referred to in sentence 1 nos. 1 to 3 is to be given without delay after obtaining knowledge of the notifiable circumstance if such knowledge is not obtained until after the expiry of the respective deadlines referred to in sentence 2 for such cases. If the circumstance which is notifiable in accordance with sentence 1 is occasioned by hazard protection, civil protection or defence measures, then, in derogation from sentences 2 and 3, notification may be given without delay after completion of those measures.

(3) Operators of temporary water supply systems are required to notify the public health office of the following:

1. the construction of a water supply system,
2. the commissioning and re-commissioning of a water supply system,
3. the probable duration of operation of a water supply system,
4. the transfer, to another person, of ownership or the right of use of a water supply system if, under the terms of section 54b of the Protection Against Infection Act, responsibility for monitoring the water supply system is incumbent on the Federal Railway Authority and
5. the decommissioning of a water supply system or sections of a water supply system if, under the terms of section 54b of the Protection Against Infection Act, responsibility for monitoring the water supply system is incumbent on the Federal Railway Authority.

In the cases referred to in sentence 1 nos. 1 to 4, notification is to be given without delay after obtaining knowledge of the notifiable circumstance and, in the case referred to in sentence 1 no. 5, within three days after decommissioning. If the circumstance which is notifiable in accordance with sentence 1 is occasioned by hazard protection, civil protection or defence measures, then, in derogation from sentence 2, notification may be given without delay after completion of those measures.

(4) The competent highest *Land* (federal state) authority or another body competent under *Land* legislation may determine that standardised forms or standardised electronic data processing operations are to be used for the notifications to be given in accordance with subsections (1) to (3).

Section 12

Obligations to notify in relation to non-drinking water systems

The operator of a building water supply system is required to notify the public health office of the following in relation to a non-drinking water system as defined in section 2 no. 10 (a) which is in operation in the same building:

1. the construction of the non-drinking water system, four weeks before the start of construction at the latest and
2. the decommissioning of the non-drinking water system, within three days after decommissioning.

The obligation to notify under sentence 1 does not apply to firefighting water systems and to animal drinking water systems if only drinking water is fed into such non-drinking water systems. The competent highest *Land* authority or another body competent under *Land*

legislation may determine that standardised forms or standardised electronic data processing operations are to be used for the notifications to be given in accordance with sentence 1.

Division 4 **Requirements for water supply systems**

Section 13

Planning, construction, maintenance and operation of water supply systems

(1) Water supply systems are to be planned and constructed such that they conform to the generally recognised codes of practice and standards at a minimum. They are to be operated in accordance with the generally recognised codes of practice and standards at a minimum.

(2) Operators of water supply systems are required to ensure that only those materials are used in their construction and maintenance which

1. comply with the general requirements under section 14 and
2. comply with the evaluation bases within the meaning of section 15, where they exist.

(3) A water supply system may only be connected to a non-drinking water system if the water supply system is fitted with a safety device which conforms to the generally recognised codes of practice and standards.

(4) Where there is both a water supply system and a non-drinking water system, the operator of the water supply system must ensure that

1. the water supply system's pipes and the non-drinking water system's pipes are permanently and unmistakably labelled in accordance with the generally recognised codes of practice and standards,
2. the points at which water is drawn from the non-drinking water system are permanently labelled so as to clearly indicate that the water is not drinking water and
3. the points at which water is drawn from the non-drinking water system are secured so that water is not unintentionally used for the purposes referred to in section 2 no. 1.

(5) Where water supply systems come into contact with raw water or drinking water during their operation, only those substances or objects may be used and only those physical, chemical or biological methods may be applied which are intended to serve the supply of drinking water. Operators of such water supply systems must remove from the raw water or the drinking water, by the end of 9 January 2025, any substances or objects which have already been introduced and are not intended to serve the supply of drinking water.

Operators of such water supply systems must, by the end of 9 January 2025, discontinue using methods which are not intended to serve the supply of drinking water.

(6) In derogation from subsection (5), the public health office may permit the operator of a centralised water supply system to use substances or objects or to apply methods to use or discharge power for the purpose of operating a centralised water supply system, provided that no adverse effect on the quality of the drinking water is to be expected. Such permission is to be limited in time and may be extended, provided that the conditions referred to in sentence 1 continue to be met.

Section 14

General requirements for materials used in construction and maintenance of water supply systems

Materials used in the construction or maintenance of water supply systems which come into contact with raw water or drinking water may not

1. directly or indirectly compromise the protection of human health as provided for under this Ordinance,
2. adversely affect the colour, odour or taste of the water,
3. enhance microbial growth or
4. release substances into the water in quantities larger than what is unavoidable in complying with the generally recognised codes of practice and standards.

Section 15

Bases for evaluating materials which come into contact with drinking water

- (1) The Federal Environment Agency may put the general requirements for materials under section 14 in concrete terms by determining the bases on which materials which may be used in the construction or maintenance of water supply systems are to be evaluated (evaluation bases). It is for the Federal Environment Agency to decide for which groups of materials it determines such evaluation bases. The Federal Institute for Risk Assessment supports the Federal Environment Agency when it comes to evaluating materials where such evaluation is required to determine the evaluation bases.
- (2) The Federal Environment Agency publishes the evaluation bases in the Official Section of the Federal Gazette as well as online. An evaluation basis becomes legally binding two years after publication in the Federal Gazette. The date on which an evaluation basis becomes legally binding is also to be published online.
- (3) The evaluation bases may, in particular, include the following:
1. test specifications with test parameters, test criteria and methodological guidelines for evaluating the hygienic suitability of
 - a) the starting substances included in positive lists as referred to in no. 2,
 - b) the materials included in positive lists as referred to in no. 3 and
 - c) materials in products,
 2. positive lists of those starting substances which are hygienically suitable for the production of materials, including requirements for the use of those starting substances, and
 3. positive lists of materials which are hygienically suitable for coming into contact with drinking water, with restrictions on the use of these materials in certain products or in contact with certain types of drinking water.
- (4) The test specifications as referred to in subsection (3) no. 1 are determined and updated by the Federal Environment Agency of its own motion.
- (5) The positive lists as referred to in subsection (3) nos. 2 and 3 are determined or updated by the Federal Environment Agency on application. An application must include information which serves as proof that the starting substances or materials meet the general requirements under section 14 and comply with the test specifications as referred to in subsection (3) no. 1. Tests and evaluations of starting substances or materials which are submitted to the Federal Environment Agency as proof as required by sentence 2 and which were carried out in another Member State of the European Union, another Contracting Party of the Agreement on the European Economic Area or in Turkey are recognised by the Federal Environment Agency as proof as required by sentence 2 when determining and updating the positive lists.
- (6) Where there is a public interest, the Federal Environment Agency may also of its own motion determine or update positive lists as referred to in subsection (3) nos. 2 and 3.

(7) Before determining or updating any evaluation bases, the Federal Environment Agency consults the *Länder*, the Bundeswehr, the Federal Railway Authority and the involved specialist groups and associations.

(8) The Federal Environment Agency specifies the details of the procedure for determining and updating evaluation bases in rules of procedure. It publishes the rules of procedure in the Official Section of the Federal Gazette as well as online.

Section 16

Presumption of conformity

It is presumed that the materials used in a product conform to the generally recognised codes of practice and standards and the general requirements for materials under section 14 as well as to the evaluation bases determined by the Federal Environment Agency as referred to in section 15 where this is confirmed by a certificate issued by a certifier accredited to certify products used in drinking water supply.

Section 17

Drinking water pipes made of lead

(1) Operators of water supply systems in which drinking water pipes or sections of drinking water pipes are made of lead are required, by the end of 12 January 2026, to remove or decommission such drinking water pipes or sections thereof in accordance with the generally recognised codes of practice and standards.

(2) On application by an operator, the public health office may extend the deadline as referred to in subsection (1) where

1. the operator has, before 12 January 2026, commissioned an installation company listed in a water supplier's directory of installation companies as provided for in section 12 (2) sentence 2 of the Ordinance on the General Conditions for the Supply of Water (*Verordnung über Allgemeine Bedingungen für die Versorgung mit Wasser*) of 20 June 1980 (Federal Law Gazette I, p. 750, 1067), as amended, or as provided for in the relevant water supply statutes, with removing or decommissioning the drinking water pipes or sections thereof and

2. the installation company certifies that, for capacity reasons, the commission is not expected to be completed until a specified date after 12 January 2026.

(3) On application by an operator, the public health office may, further, extend the deadline as referred to in subsection (1) up to the end of 12 January 2036 at the latest where

1. the system in question is a building water supply system or an individual water supply system,

2. the drinking water is only used for the water supply system operator's own household and

3. there is no cause for concern about adverse effects on the health of those consumers who regularly use the water supply system, in particular taking account of their age and sex.

Where the public health office extends the deadline in accordance with sentence 1, the operator of the affected water supply system is obliged to notify the public health office without delay whenever there has been any relevant change in terms of the consumers who regularly use the water supply system, in particular if minors, pregnant women or women of reproductive age join that group of consumers. Where there is a change in the ownership of a water supply system before a deadline which has been extended in accordance with sentence 1, the deadline as referred to in subsection (1) expires one year after the transfer of ownership; however, the period expires at the end of 12 January 2026 at the earliest.

(4) On expiry of the relevant deadline which follows from subsections (1) to (3), operators are required, without being prompted to do so, to provide the public health office with proof, in

writing or electronically, of compliance with the obligation to remove or decommission pipes under subsection (1).

(5) Operators of centralised water supply systems or of decentralised water supply systems or, where systems are operated as part of a commercial or public activity, of building water supply systems or temporary water supply systems are required without delay to inform the consumers to whom drinking water is supplied if they become aware that

1. drinking water pipes in the water supply system or sections thereof are made of lead or
2. it is to be assumed, in particular on the basis of the results of drinking water testing conducted by an accredited testing laboratory, that there are drinking water pipes in the water supply system or sections thereof which are made of lead.

After providing the consumers supplied through a water supply system with the information referred to in sentence 1, operators are required, as soon as the information is available to them, to inform consumers when the drinking water pipes or sections thereof which are made of lead are likely to be removed or decommissioned. As from 13 January 2026, operators are required to declare in text form and to provide proof in a suitable manner to the consumers concerned that they have met their obligation under subsection (1) or that the deadline has been extended in accordance with subsection (2).

(6) Where a water supplier or an installation company establishes that there are drinking water pipes or sections of drinking water pipes in a water supply system which are made of lead, it must without delay notify the public health office thereof in writing or electronically. The obligation to notify under sentence 1 does not apply if the existence of drinking water pipes or sections thereof which are made of lead is established when completing a commission to decommission or remove those pipes.

Division 5 Treatment

Section 18 Treatment purposes

Raw water may only be treated to produce drinking water and drinking water may only be treated for the following purposes:

1. for the purpose of removing substances and particles from the raw water, including those pathogens which are not eliminated by disinfection when raw water is treated to produce drinking water,
2. for the purpose of removing solid particles in the drinking water installation,
3. for the purpose of altering the physico-chemical composition of the drinking water during treatment and distribution
 - a) to ensure compliance with the requirements for drinking water quality in the distribution network up to the point of compliance as defined in section 10,
 - b) to regulate the chemical corrosive properties of the drinking water,
 - c) to search for leaks or
 - d) to regulate the calcium and magnesium content or
4. for the purpose of disinfection
 - a) during the treatment of raw water to produce drinking water,
 - b) during the distribution of drinking water in centralised, decentralised, mobile or temporary water supply systems,

- c) during the storage of unheated drinking water in containers,
- d) concomitantly with the refurbishment of a drinking water installation or
- e) by order of the public health office.

Section 19

General requirements for water treatment

- (1) The treatment of raw water or drinking water is required to be carried out, at a minimum, in accordance with the generally recognised codes of practice and standards.
- (2) No substances other than treatment agents may be added to the raw water and to the drinking water.
- (3) Only those treatment agents and disinfection methods may be used during treatment which are included in the List of Permissible Treatment Agents and Disinfection Methods as referred to in section 20.
- (4) Before using a treatment agent, operators must ensure that its purity has been verified in accordance with the generally recognised codes of practice and standards to ensure conformity with the requirements for cleanliness set out in section 20 (2) no. 1 (a).
- (5) When using treatment agents and disinfection methods, the requirements, conditions of use and areas of use laid down in accordance with section 20 (2) and (3) and, in the case of an exemption as referred to in section 21 (1), the conditions imposed in that connection must be complied with.
- (6) After completion of treatment, treatment agents are to be fully removed from the drinking water, unless they are intended to remain in the drinking water. The requirement under sentence 1 is deemed to be met where only those residues of treatment agents and their reaction products which are unavoidable in complying with the generally recognised codes of practice and standards remain in the drinking water and these residues are technologically without effect, in quantities which have no adverse effect on human health and which do not affect the colour, odour or taste of the drinking water.
- (7) The amount of treatment agent which is added to the raw water or to the drinking water and which is intended to remain in the drinking water is to be limited to what is necessary in accordance with the generally recognised codes of practice and standards.

Section 20

List of Permissible Treatment Agents and Disinfection Methods

- (1) The Federal Environment Agency keeps a list of permissible treatment agents and disinfection methods (List of Permissible Treatment Agents and Disinfection Methods). It publishes the List of Permissible Treatment Agents and Disinfection Methods in the Official Section of the Federal Gazette as well as online.
- (2) The Federal Environment Agency determines the following in the List of Permissible Treatment Agents and Disinfection Methods:
 - 1. in relation to treatment agents, requirements concerning
 - a) cleanliness,
 - b) the specific purposes for which they may each exclusively be used,
 - c) the maximum permissible dosage,
 - d) the specific permissible maximum concentrations of residues and reaction products which remain in the drinking water,
 - e) the required minimum concentration and permissible maximum concentration of free chlorine, chlorine dioxide or other disinfectants in the drinking water after completion of disinfection and
 - f) other conditions of use, as well as

2. in relation to disinfection methods, the conditions of use which, when complied with,

- a) guarantee sufficient efficacy and
- b) have no avoidable or unacceptable impact on human health and the environment,

3. operators' obligations to test the drinking water in relation to the treatment agents used, the parameters to be tested and the frequency of testing,

4. the dosing process controls to be conducted by operators and

5. the documentation which operators are required to compile.

(3) The Federal Environment Agency may also stipulate in the List of Permissible Treatment Agents and Disinfection Methods that treatment agents and disinfection methods may only be used in the following special areas of application:

- 1. for the requirements of the Bundeswehr, on behalf of the Federal Ministry of Defence,
- 2. for civilian requirements in a state of defence, on behalf of the Federal Ministry of the Interior and Community or
- 3. in the event of a disaster or large-scale incident which poses a serious risk to the water supply, subject to the approval of the authorities responsible for civil protection.

(4) On application, the Federal Environment Agency adds a treatment agent or a disinfection method to the List of Permissible Treatment Agents and Disinfection Methods or amends determinations made in the List of Permissible Treatment Agents and Disinfection Methods if the treatment agent or disinfection method complies with the conditions of use and

- 1. is sufficiently efficacious,
- 2. has neither an avoidable nor an unacceptable direct or indirect impact on human health or the environment,
- 3. does not adversely affect the colour, odour or taste of the drinking water and
- 4. does not unintentionally enhance microbial growth.

Any adverse effect on the odour of the drinking water on account of the use of disinfectants is disregarded. Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1; L 303, 20.11.2015, p. 109; L 280, 28.10.2017, p. 57), as last amended by Commission Delegated Regulation (EU) 2021/807 (OJ L 180, 21.5.2021, p. 81), remains unaffected. Treatment agents which have been legally manufactured or placed on the market in another Member State of the European Union or in Turkey, or which have been legally manufactured in another Contracting Party of the Agreement on the European Economic Area, are added to the List of Permissible Treatment Agents and Disinfection Methods if the Federal Environment Agency has determined that they permanently achieve the same level of protection as is required in Germany. When making its determination in accordance with sentence 4, the Federal Environment Agency gives due consideration to the results of checks included in the application which were already conducted in the Member State of origin, in Turkey or in another Contracting Party of the Agreement on the European Economic Area.

(5) Applications as referred to in subsection (4) may be submitted by operators of water supply systems, authorities, technical regulators in the area of drinking water supply and persons who manufacture, import or use treatment agents or disinfection methods.

Applicants are required to include in the application documents which provide proof that the requirements of subsection (4) are met.

(6) The Federal Environment Agency gives a decision on an application submitted in accordance with subsection (4) after consulting the *Länder*, the Bundeswehr, the Federal Railway Authority, the Federal Office of Civil Protection and Disaster Assistance and affected specialist groups and associations. Where the conditions of subsection (4) are met, the Federal Environment Agency adds the treatment agent or disinfection method or any amendments to previous determinations to the List of Permissible Treatment Agents and Disinfection Methods. Such additions or amendments are made when the List of Permissible Treatment Agents and Disinfection Methods is next published.

(7) The Federal Environment Agency may also of its own motion add treatment agents or disinfection methods to the List of Permissible Treatment Agents and Disinfection Methods or amend determinations made in the List of Permissible Treatment Agents and Disinfection Methods; subsections (4) and (6) apply accordingly.

(8) The Federal Environment Agency specifies details of the procedure as set out in subsections (4) to (7) in rules of procedure. It publishes the rules of procedure in the Official Section of the Federal Gazette as well as online.

Section 21

Exemptions

(1) Where an assessment of whether the conditions of section 20 (4) are fulfilled requires a broader evaluation of efficacy or a test phase to assess the general reliability of a treatment agent or disinfection method, the Federal Environment Agency may, on application, grant temporary exemptions from the obligation under section 19 (3). The grant of an exemption presupposes that there are reasonable grounds to assume that the broader evaluation of efficacy or the test phase to assess general reliability will give no cause for concern about adverse effects on human health or the environment. The exemption is to be restricted to what is necessary and is to be granted for a limited period. It is to be published in the Official Section of the Federal Gazette as well as online.

(2) The Federal Environment Agency may revoke the exemption granted in accordance with subsection (1) where there are indications that the treatment agent or disinfection method does not meet the requirements of section 20 (4).

(3) The Federal Environment Agency may stipulate in the List of Permissible Treatment Agents and Disinfection Methods that ion exchangers, membranes, limescale protection devices, air and filter media employed in drinking water treatment which were in use before 24 June 2023 may continue to be used temporarily even if they do not meet the requirements under section 20 (4). The Federal Environment Agency stipulates in the List of Permissible Treatment Agents and Disinfection Methods the necessary conditions for such temporary continued use.

(4) On application by the operator of a water supply system, the public health office may grant exemptions from the requirements of section 18 and of section 20 (4) in relation to the continued use of membrane systems to remove pathogens in a drinking water installation which were already in operation for research and testing purposes before 24 June 2023. Such exemption is to be granted for a limited period and may be subject to conditions.

(5) On application by the operator of a water supply system, the public health office, in consultation with the Federal Environment Agency and with the agreement of the competent highest *Land* authority or another body competent under *Land* legislation, may permit temporary exemptions from the requirements under section 20 (2) no. 1 (a) and (b) until the end of 31 December 2025 at the latest where,

1. despite proven efforts, the operator is unable to obtain treatment agents for the relevant treatment purpose which meet requirements or is unable to obtain them in sufficient quantities and

2. having regard to the circumstances of the particular case, use of the treatment agent is, by way of exception, suitable and necessary to produce drinking water quality which meets the requirements under Division 2.

(6) Operators of water supply systems using a treatment agent on 23 June 2023 on the basis of the publication of the List of Treatment Agents and Disinfection Methods pursuant to section 11 of the Drinking Water Ordinance – 24th amendment – of 14 October 2022 (Federal Gazette, Official Section, 31 October 2022 B14) which, in derogation from the level of cleanliness generally prescribed in the List of Treatment Agents and Disinfection Methods, has the next-lowest level of cleanliness, may continue to use that treatment agent until 30 June 2024, having due regard to the maximum permissible quantity which may be added.

Section 22

Prohibition of supply in case of impermissible treatment

Operators of water supply systems may not supply water as drinking water if the water was treated without an exemption as referred to in section 21 (1) sentence 1 or (5) or was not treated in accordance with section 21 (6) using treatment agents or disinfection methods which are not included in the List of Permissible Treatment Agents and Disinfection Methods published pursuant to section 20 of the Drinking Water Ordinance of 13 January 2023 (Federal Gazette, Official Section, 27 January 2023 B12).

Section 23

Obligation to treat water

(1) Treatment must be carried out if the operator of a water supply system establishes facts in relation to the raw water which may lead to the emergence of pathogens within the meaning of section 2 no. 1 of the Protection Against Infection Act or to contamination of the raw material or drinking water with other microorganisms, or if there are indications to suggest the existence of such facts. Where treatment without disinfection is unable to rule out adverse effects on human health, the treatment is also required to include disinfection.

(2) Operators of the following water supply systems must maintain sufficient disinfection capacity in pipeline networks or sections thereof by means of free chlorine, chlorine dioxide or other permissible disinfectants or disinfection methods if the microbiological requirements under section 6 (1) and (2) can only be met in the pipeline networks or sections thereof by means of disinfection:

1. centralised water supply systems,
2. decentralised water supply systems and
3. mobile water supply systems and temporary water supply systems if the drinking water is supplied as part of a commercial or public activity.

(3) If the condition of a drinking water installation is the reason why the drinking water does not meet the microbiological requirements under section 6 (1) and (2), then

1. disinfection may only be applied to the drinking water in the drinking water installation if this is ordered by the public health office and
2. the operator of the affected water supply system is required to refurbish the drinking water installation.

Section 24

Testing for operational parameter turbidity in case of filtration

(1) Operators of centralised water supply systems are required, from the point when they apply a filtration method at the particle separation filtration stage of treatment, to test the filtrate for the operational parameter turbidity at the frequency which follows from Annex 5 Part II. Sentence 1 does not apply to operators of centralised water supply systems drawing

water from groundwater sources in which the turbidity is the result of the presence of iron or manganese.

(2) When testing for the operational parameter turbidity, the generally recognised codes of practice and standards, at a minimum, are to be complied with.

(3) Where the reference values for the operational parameter turbidity laid down in Annex 5 Part I are exceeded, operators must take appropriate action in accordance with the generally recognised codes of practice and standards with a view to ensuring compliance with the reference values.

Section 25

Operators' obligations regarding record keeping

(1) Operators of centralised water supply systems, of decentralised water supply systems or, where the drinking water is supplied as part of a commercial or public activity, of mobile water supply systems, building water supply systems or temporary water supply systems are required to record, at least on a weekly basis, which treatment agents are used as well as their concentrations in the drinking water. The data must be recorded in writing or on data carriers.

(2) In the case of mobile water supply systems, building water supply systems and temporary water supply systems, the Federal Environment Agency may make a different determination in the List of Permissible Treatment Agents and Disinfection Methods or in the exemption regarding the frequency of recording granted in accordance with section 21 (1).

(3) For six months from the date when the treatment agent was used, operators are required to

1. keep the records available for connection owners and consumers to inspect during normal business hours and
2. provide connection owners and consumers with a copy of the records on their request.

Section 26

Provision of information to connection owners and consumers regarding treatment

(1) Operators of centralised water supply systems, of decentralised water supply systems, of mobile water supply systems, building water supply systems or temporary water supply systems which supply drinking water to connection owners or consumers are required to announce the following, in writing and without delay, to the relevant connection owners and consumers:

1. the start of use of a treatment agent or disinfection method and
2. the concentration of any treatment agent added to the drinking water.

(2) In the case of centralised water supply systems and decentralised water supply systems, the announcement to be made in accordance with subsection (1) may be made in local daily newspapers. In the case of building water supply systems operated as part of a commercial or public activity, the announcement may be posted on a suitably placed notice board.

Division 6

Operators' obligations to conduct testing

Section 27

Inspection of protected areas, testing of raw water

(1) Operators of centralised water supply systems or of decentralised water supply systems are required regularly, but at least once a year, to inspect any protected areas belonging to the water supply systems. When doing so, the operator is required to note any circumstances which were previously unknown and which may adversely affect the quality of the drinking water. If no protected areas have been designated, operators are required to

inspect the area surrounding the water catchment system of the relevant water supply system.

(2) If, during such inspections, operators note any circumstances as referred to in subsection (1), they are required without delay to conduct testing of the raw water which is adapted to the possible adverse effects.

(3) Operators are required without delay to document, in writing or on data carriers, the results of inspections conducted in accordance with subsection (1) and of the testing of raw water conducted in accordance with subsection (2). They are required to keep these documents available for 10 years.

Section 28

Obligations to conduct testing in relation to microbiological parameters, chemical parameters, indicator parameters and treatment agents in case of centralised and decentralised water supply systems; testing plan

(1) Operators of centralised water supply systems or of decentralised water supply systems are required to conduct testing to ensure that the drinking water meets the requirements under this Ordinance at the point at which it is transferred to the drinking water installation. Testing is to be conducted in respect of

1. the
 - a) limit values laid down in section 6 (2) or (3) in conjunction with Annex 1 and
 - b) maximum values laid down in accordance with section 6 (4)

for microbiological parameters,

2. the
 - a) limit values laid down in section 7 (2) in conjunction with Annex 2 and
 - b) maximum values laid down in accordance with section 7 (3)

for chemical parameters,

3. the limit values and requirements for indicator parameters laid down in accordance with section 8 (1) and (2) in conjunction with Annex 3 Part I, including an assessment of corrosivity in accordance with section 8 (3) sentence 2,
4. the values and differing requirements for indicator parameters laid down in accordance with section 65 (3) sentence 3 and
5. the action values for chemical parameters laid down in accordance with section 66 (2) sentence 1.

The scope and frequency of testing are governed by Annex 6 Part I.

(2) Operators of centralised water supply systems or of decentralised water supply systems are required to draw up a plan regarding the conduct of the testing as required by subsection (1) (testing plan). The testing plan is to cover at least one year and to include the following:

1. details regarding the scope of the parameters to be tested, having regard to subsections (1) and (3) and any decisions taken by the public health office in accordance with section 38 (4),
2. details regarding the frequency of the parameters to be tested, having regard to subsections (1) and (3) and any decisions taken by the public health office in accordance with section 38 (4),
3. details regarding the sampling points consisting of

- a) the address of the sampling point comprising the street name, house number, postcode and place name,
- b) the designation of the abstraction point,
- c) the date on which the sampling is done and

4. details regarding the sampling method as described in section 42.

Operators are required to draw up the testing plan in agreement with the public health office, to forward the plan to the public health office to that end, in writing or electronically, prior to its implementation and to adjust the testing plan in line with the public health office's requirements should it deem such adjustment necessary.

(3) In derogation from subsection (1) sentence 3, the public health office may, in the case of decentralised water supply systems, determine, in relation to the Group B parameters referred to in Annex 6 Part I Note 2, which testing is to be conducted as required by subsection (1) sentence 2 nos. 2 and 3 and at what intervals within a period it is required to set. Sentence 1 does not apply if the public health office is aware of facts which may lead to the limit values for the Group B parameters referred to in Annex 6 Part I Note 2 being exceeded or to the drinking water not meeting the requirements under sections 6 to 8. If the public health office derogates from the provisions of subsection (1) sentence 3, it is required to inform the operator of the affected decentralised water supply system, in writing or electronically, of the derogating provision, including reasons for the derogation.

(4) The operator may count any drinking water testing conducted as part of the public health office's monitoring in accordance with section 54 towards the scope and frequency of testing to be conducted in accordance with subsection (1) and may take it into account in the testing plan as referred to in subsection (2).

(5) Where drinking water is supplied from a centralised water supply system or a decentralised water supply system to another centralised water supply system or decentralised water supply system, the public health office may determine which testing in accordance with subsection (1) is to be conducted by the operator of which water supply system.

(6) Operators of centralised water supply systems or of decentralised water supply systems are required to conduct testing by which it can be determined whether the general requirements for treatment under section 19 are being complied with. The scope and frequency of testing is specified in the List of Permissible Treatment Agents and Disinfection Methods as referred to in section 20.

Section 29

Obligations to conduct testing in relation to microbiological parameters, chemical parameters, indicator parameters and treatment agents in case of other water supply systems

(1) Operators of individual water supply systems are required to test the drinking water at least once a year to investigate whether the limit values for *Escherichia coli* (*E. coli*) and intestinal enterococci referred to in Annex 1 Part I and the limit values for *Clostridium perfringens*, including spores, coliform bacteria, colony count at 22 °C and colony count at 36 °C laid down in Annex 3 Part I are being complied with. In all other cases, the public health office determines at what intervals which testing in relation to the parameters referred to in section 28 (1) sentence 2 nos. 2 to 5 is to be conducted by operators of individual water supply systems. The intervals may not exceed five years.

(2) In the case of mobile water supply systems used to supply drinking water as part of a commercial or public activity, the public health office determines at what intervals operators are required to conduct which testing in accordance with section 28 (1) sentence 2 no. 1 (b) and nos. 2 to 5. The parameters *Escherichia coli* (*E. coli*) and intestinal enterococci are always to be tested at the frequencies set out in Annex 6 Part I. Until the public health office

has made the determinations as required by sentence 1, operators are required to test drinking water as follows:

1. in the case of mobile water supply systems with their own water abstraction from which at least 10 cubic metres of drinking water is extracted per day or from which drinking water is supplied to at least 50 persons, applying section 28 (1) accordingly to the scope and frequency of testing and
2. in the case of all other mobile water supply systems, at least once a year to ascertain whether the limit values for *Escherichia coli* (*E. coli*) and intestinal enterococci referred to in Annex 1 Part I and the limit values for *Clostridium perfringens*, including spores, coliform bacteria, colony count at 22 °C and colony count at 36 °C laid down in Annex 3 Part I are being complied with.

This does not affect the obligations to conduct testing in relation to the parameter *Legionella spec.* under section 31.

(3) In the case of temporary water supply systems, the public health office determines at what intervals operators are required to conduct which testing in accordance with section 28

(1). This does not affect the obligations to conduct testing in relation to the parameter *Legionella spec.* under section 31.

(4) Operators may count drinking water testing conducted as part of the public health office's monitoring in accordance with section 54 towards the scope and frequency of testing to be conducted in accordance with subsections (1) to (3).

(5) Operators of individual water supply systems, of mobile water supply systems or of temporary water supply systems are required to conduct testing by which it can be determined whether the general requirements for treatment under section 19 are being complied with. The scope and frequency of testing is specified in the List of Permissible Treatment Agents and Disinfection Methods as referred to in section 20.

Section 30

Operational monitoring programme

(1) Operators of the following water supply systems are required to draw up and implement a programme for the operational monitoring of control measures (operational monitoring programme):

1. centralised water supply systems,
2. mobile water supply systems and temporary water supply systems with their own water abstraction from which at least 10 cubic metres of drinking water is extracted or supplied to intermediate customers through fixed pipeworks per day or from which drinking water is supplied to at least 50 persons through fixed pipeworks.

The public health office may determine that an operational monitoring programme is to be drawn up and implemented in relation to decentralised water supply systems.

(2) The operational monitoring programme is to be drawn up and implemented at a minimum in accordance with the generally recognised codes of practice and standards, in particular in line with DIN EN 15975-2. It encompasses, in particular, water testing, on-site inspections to check the condition of the water supply system and a review of organisational measures.

Operators are required to ensure that the operational monitoring programme

1. is adapted to the specific characteristics of the water supply system, such as location, volume of drinking water extracted or delivered per day and origin of the raw water,
2. takes account of the results of the risk assessment as referred to in section 35 (2) no. 2, where such risk management is carried out,
3. specifies the scope and frequency of the operational monitoring such that

- a) the effectiveness of the control measures, such as those referred to in section 24 (1), section 35 (2) no. 5 or section 36 (2) sentence 1 no. 2, can be assessed without any delay,
 - b) adverse changes to the quality of the water can be identified without any delay and
 - c) any corrective action defined before obtaining knowledge of the result of the operational monitoring as part of risk management can be taken without any delay and
4. account is taken of the results of the assessment of the catchment areas for drinking water abstraction points and risk management for those catchment areas as provided for in the statutory instrument to be issued on the basis of section 50 (4a) of the Federal Water Act (*Wasserhaushaltsgesetz*), where such an assessment and such risk management was carried out.
- (3) When testing the water as required by subsection (2), operators of water supply systems may determine the sampling point, sampling method and testing method in derogation from sections 41 to 43 in conformity with the generally recognised codes of practice and standards at a minimum.

Section 31

Obligations to conduct testing in relation to *Legionella spec.*

- (1) Operators of mobile water supply systems, of building water supply systems or of temporary water supply systems are required to test drinking water supplied as part of a commercial or public activity in relation to the parameter *Legionella* by conducting systemic testing of the water supply system under the conditions and in line with the timeframes as referred to in subsections (2) to (4) where
- 1. the water supply system has an installation for heating drinking water with
 - a) a storage drinking water calorifier or a central instantaneous drinking water heater with a capacity of more than 400 litres in each case or
 - b) a capacity of more than 3 litres in at least one drinking water pipe between the outflow of the drinking water calorifier and the drinking water draw-off point, with no account taken of the content of any circulation pipeworks,
 - 2. the water supply system includes showers or other installations in which drinking water is aerosolised and
 - 3. the water supply system is not in a one- or two-family dwelling.
- (2) Testing conducted in relation to the parameter *Legionella spec.* in accordance with subsection (1) is to be carried out at the following frequencies:
- 1. in the case of mobile water supply systems, at a frequency to be determined by the public health office,
 - 2. in the case of building water supply systems,
 - a) at a minimum every three years if the drinking water is supplied as part of a commercial but not as part of a public activity,
 - b) at a minimum once a year in all other cases, unless the public health office determines a longer interval on the basis of subsection (3),
 - 3. in the case of temporary water supply systems, at a frequency to be determined by the public health office.

(3) In derogation from subsection (2) no. 2 (b), the public health office may determine testing intervals of up to three years where

1. no objections have been raised in relation to a building water supply system for three consecutive years as part of the annual testing conducted in accordance with subsection (2) no. 2 (b) and
2. the building water supply system and its mode of operation have not been modified and demonstrably conform to the generally recognised codes of practice and standards at a minimum.

Sentence 1 does not apply to building water supply systems in facilities referred to in section 23 (5) of the Protection Against Infection Act, to care facilities and to other facilities accommodating patients at greater risk of infection with *Legionella spec.*

(4) In the case of newly commissioned water supply systems, the first testing in relation to the parameter *Legionella spec.* as required by subsection (1) is to be conducted within three to 12 months after commissioning.

Section 32

Obligations to conduct testing in relation to radioactive substances

(1) Operators of centralised water supply systems are required to establish, by conducting initial testing in accordance with the provisions of subsections (3) to (5) and (8) and by conducting regular testing in accordance with the provisions of subsections (6) to (8), whether the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I are not exceeded in the drinking water at the point at which it is transferred to the drinking water installation. The competent authority may order that the operator of a decentralised water supply system is required to comply with the obligation under sentence 1 if there are indications that parametric values for radioactive substances under section 9 sentence 2 in conjunction with Annex 4 Part I may be exceeded. The competent authority may order that the operator of an individual water supply system is required to conduct testing in relation to the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I if it deems this necessary to protect human health. When issuing the order as referred to in sentence 3, the competent authority determines in each instance which parameters are to be tested and the number of required tests.

(2) Where drinking water is supplied from a centralised water supply system or a decentralised water supply system to another centralised or decentralised water supply system, the competent authority may determine which testing as required by subsection (1) is to be conducted in each case by the operator of which water supply system.

(3) The initial testing serves to determine the annual average activity concentrations and to assess whether the parametric values for radioactive substances are being complied with. The initial testing is to be started within three months after commissioning of the water supply system. Where there are significant changes to water abstraction or water treatment which may have an adverse effect on the radionuclide content of the water, renewed initial testing is to be conducted within three months after the significant change.

(4) The initial testing comprises four tests conducted in four different quarters within a one-year testing period. Drinking water testing which was conducted as part of monitoring within the meaning of section 57 may be counted towards the scope and the number of tests to be conducted as part of initial testing. The parametric value for radon-222 and tritium is deemed to have been complied with during initial testing if the average activity concentration measured over the testing period does not exceed the parametric value in question. The parametric value for the reference dose is deemed to be complied with if the average activity concentration measured in accordance with Annex 4 Parts II and III over the testing period proves that this value is not exceeded.

(5) The activity concentration of radon-222 and the reference dose for natural radionuclides are to be determined during initial testing. It is only necessary to conduct initial testing of the

drinking water in relation to the parametric value for tritium or other artificial radionuclides to determine the reference dose if the competent authority has ordered this on the basis of sentence 3 or 4. The competent authority may order that initial testing in relation to artificial radionuclides be conducted if there are indications that the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I may be exceeded. The authority is required to order that the reference dose be determined, taking account of artificial radionuclides, if the parametric value for tritium is exceeded.

(6) Where initial testing establishes the exceedance of a parametric value for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I, regular testing of the drinking water is necessary in relation to that parametric value. This does not affect section 33 (2) no. 2. If the competent authority orders, in accordance with section 63 (1) sentence 1 in conjunction with section 62 (3), that the drinking water be treated to reduce the radionuclide content of the drinking water, then regular testing is to be conducted to check the ongoing efficacy of the water treatment.

(7) Regular testing is to be conducted as from the year following that year in which initial testing was completed or after treatment measures were ordered in accordance with section 63 (1) sentence 1 in conjunction with section 62 (3). The number of regular tests which are to be conducted within a one-year period follows from Annex 6 Part II. Where the results of previous testing have shown that certain natural radionuclides are present in the water in stable activity concentrations, the competent authority may, depending on the local conditions, determine less frequent regular testing and adjust the scope of testing in relation to those natural radionuclides. Drinking water testing conducted in the context of monitoring within the meaning of section 57 may count towards the scope and frequency of regular testing.

(8) The calculation and assessment of the reference dose and the performance characteristics for testing in relation to radioactive substances during initial testing and regular testing are governed by Annex 4 Parts II and III and Annex 7 Part II.

Section 33

Exemptions from obligations to conduct testing in relation to radioactive substances

(1) Initial testing need not be conducted if the competent authority has determined, on the basis of representative surveys, monitoring data or other reliable information, for a period of time it is required to set that radioactive substances are not present in a water supply zone in concentrations which are expected to lead to an exceedance of the parametric values for radioactive substances as set out in section 9 sentence 2 in conjunction with Annex 4 Part I.

(2) The competent authority may, on application, determine for a period of time it is required to set

1. that initial testing need not be conducted if the operator of a water supply system furnishes proof, based on representative surveys, monitoring data or other reliable information, of compliance with the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I and

2. that regular testing need not be conducted if the operator of a water supply system furnishes proof, by means of initial testing, of the exceedance of the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I to such a negligible degree that it may be disregarded from the perspective of radiation protection.

(3) The competent authority may, on application, determine that regular testing may be discontinued if the operator of a water supply system

1. furnishes proof of compliance with the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I or

2. furnishes proof of exceedance of the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I to such a negligible degree that it can be disregarded from the perspective of radiation protection.

Division 7 **Risk-based approach**

Section 34

Risk management obligation in relation to water supply systems

(1) To ensure compliance with drinking water quality requirements, operators of the following water supply systems are required to carry out ongoing risk management in relation to the water supply system (risk management):

1. centralised water supply systems,
2. mobile and temporary water supply systems with their own water abstraction from which at least 10 cubic metres of drinking water is extracted or supplied to intermediate customers through fixed pipeworks per day or from which at least 50 persons are supplied with drinking water through fixed pipeworks.

(2) Risk management is to be carried out for the first time and an application is to be made in accordance with section 38 (3) for the first time

1. by the end of 12 January 2029 if the water supply system supplies more than 100 cubic metres of drinking water per day or more than 500 persons or
2. by the end of 12 January 2033 if the water supply system supplies at least 10 cubic metres and at most 100 cubic metres of drinking water per day or at least 50 persons and at most 500 persons, unless the public health office has, in the particular case, required, by the end of 12 January 2026, that risk management be introduced by the end of 12 January 2029.

After completion of the first risk management, operators of water supply systems are required to conduct a review of their risk management at six-year intervals at most and, if risk management no longer ensures that the drinking water quality requirements under Division 2 are met, to make an application in accordance with section 38 (3) to update the risk management.

(3) Where the results of the assessment of the catchment area for the drinking water abstraction points and of risk management for that catchment area as provided for in the statutory instrument to be issued on the basis of section 50 (4a) of the Federal Water Act are not yet available, section 14 (2a) sentence 2 no. 3 of the Drinking Water Ordinance as published on 10 March 2016 (Federal Law Gazette I, p. 459), as last amended by Article 1 of the Ordinance of 22 September 2021 (Federal Law Gazette I, p. 4343), applies instead of section 35 (2) no. 1 below. In such cases, an application as referred to in section 38 (4) may be granted once and a determination as referred to in section 38 (5) may be made once for six years at most.

(4) Sampling plans approved before 24 June 2023 in accordance with section 14 (2b) of the Drinking Water Ordinance as published on 10 March 2016 (Federal Law Gazette I, p. 459), as last amended by Article 1 of the Ordinance of 22 September 2021 (Federal Law Gazette I, p. 4343), may be extended once only by six calendar years within their period of validity on the basis of the provisions of the Drinking Water Ordinance in the version referred to, at most up until the expiry of the deadline which follows, in the particular case, from subsection (2) sentence 1. The extension of a sampling plan is deemed to be the grant of an application as referred to in section 38 (4).

Section 35

Risk management in relation to water supply systems

(1) Persons carrying out risk management must have sufficient expertise in the type of water supply system subject to risk management in accordance with section 34 (1) and must be sufficiently qualified on account of having gained the relevant professional experience or of having undergone training in risk management in relation to water supply systems.

(2) Risk management must be carried out in conformity with, at a minimum, the generally recognised codes of practice and standards, in particular DIN EN 15975-2, and, where applicable in relation to the affected water supply system, must

1. take into consideration, in the case of water supply systems to which the statutory instrument to be issued on the basis of section 50 (4a) of the Federal Water Act applies, the results of the assessment of the catchment area for the drinking water abstraction points and risk management for that catchment area,
2. identify hazards and hazardous events in relation to water supply systems and include an assessment of the resulting risks to drinking water quality which meets the requirements under Division 2 (risk assessment),
3. take into consideration risks to drinking water quality stemming from climate change, leakages and leaking drinking water pipes,
4. take into consideration the results of inspections of the water supply system and, where applicable, of the protected areas and of the area surrounding the water catchment system,
5. include the determination and implementation of measures to control risks in order to prevent or mitigate any identified risks which could compromise the drinking water quality which complies with the requirements under Division 2,
6. include the operational monitoring programme currently being implemented as referred to in section 30,
7. take into consideration the substances and compounds included in the watch list as referred to in Article 13 (8) of 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 (OJ L 435, 23.12.2020, p. 1), as amended,
8. take into consideration the following:
 - a) the results of the testing conducted in accordance with section 36 and
 - b) the results of further raw water testing in relation to the indicator parameter somatic coliphages, where such testing has been conducted,
9. based on the results referred to in no. 8 (a) and (b), assess the need for further future raw water testing in relation to the indicator parameter somatic coliphages and, where applicable, determine the frequency of such testing.

(3) Operators of water supply systems are required to document, in writing or on data carriers, the carrying out and the results of risk management. The documentation is required to encompass the following:

1. a description of all procedural steps in the affected water supply system taken in relation to the abstraction, treatment and distribution of the water up to the point at which it is transferred to the drinking water installation, including information about the employed disinfection methods, treatment agents and materials which come into contact with the drinking water,
2. a summary of the results of risk assessment and other aspects of risk management, including the operational monitoring programme currently being implemented in accordance with section 30,

3. in the case of a centralised water supply system, a reasoned proposal for the adaptation or continuation of the testing plan, in particular
 - a) whether it is necessary to extend the scope or increase the frequency of testing for specific parameters in accordance with section 37 (4) and
 - b) whether a parameter is to be eliminated from the scope of testing or whether the frequency of testing is to be reduced in accordance with section 37 (2),
4. in the case of a water supply system referred to in section 34 (1) no. 2, a proposal for the determination of obligations to conduct testing as required by section 29 (2) or (3),
5. a declaration by the operator to the effect that no circumstance is expected to arise which would lead to a deterioration in the quality of the drinking water if the testing plan were to be adapted in line with the proposal or a determination of the obligations to conduct testing were to be made in line with the proposal,
6. a declaration by the operator to the effect that the requirements of subsection (1) are met and
7. an annex which is to be used to provide consumers with information as required by section 46 (1) no. 6.

When conducting the review of risk management in accordance with section 34 (2) sentence 2, the documentation to be provided to the public health office in accordance with section 38 (1) no. 2 or 3 may make reference to the fact that the content of any documentation which has already been provided to the public health office in accordance with section 38 (1) has not changed. Risk management updates are to be presented in summary form.

(4) As soon as the Federal Ministry of Health makes available an electronic procedure for the carrying out and documentation of risk management in accordance with subsections (2) and (3), operators of water supply systems are required to use that electronic procedure. Until such time as the Federal Ministry of Health makes available the procedure referred to in sentence 1, it is required to consult with the competent highest *Land* authorities or another body competent under *Land* legislation in that regard.

Section 36

Indicator parameter somatic coliphages

(1) As part of risk management, operators of centralised water supply systems are required to test raw water originating from surface water in each of the water abstraction systems which form part of a water supply system in relation to the indicator parameter somatic coliphages prior to the first step of the treatment chain in the water supply plant. Where the raw water is supplied to the first treatment step in the water supply plant from several water abstraction systems through a commonly used collector pipe, it is sufficient to test the raw water in the collector pipe prior to the first step in the treatment chain in the water supply plant. This testing comprises the taking of four representative samples at three-month intervals and the taking of at least two event-driven samples within the same period during heavy rainfall, drought or other unusual weather events.

(2) If the testing as required by subsection (1) or further raw water testing in relation to the indicator parameter somatic coliphages reveals an exceedance of the reference value for the indicator parameter somatic coliphages as set out in Annex 3 Part III, the operator is required to

1. identify the causes in the catchment area for the drinking water abstraction points and
2. determine the efficacy of the treatment methods and elimination capacity of the individual steps of the treatment chain and evaluate them as regards viral pathogens.

Section 37

Proposal for adaptation or continuation of testing plan or for determination of obligations to conduct testing

(1) A proposal for the adaptation or continuation of the testing plan as referred to in section 35 (3) sentence 2 no. 3 or a proposal for the determination of obligations to conduct testing as referred to in section 35 (3) sentence 2 no. 4

1. is made on the basis of risk assessment within the meaning of section 35 (2) no. 2,
2. takes account of the possible reasons for the potential existence, in the drinking water, of chemical substances or microorganisms which are subject to the obligation to conduct testing,
3. takes account of the possible variability and long-term trend regarding the concentration, in the drinking water, of the chemical substances and microorganisms which are subject to the obligation to conduct testing,
4. is based on the presence of individual chemical substances or microorganisms in the raw water in accordance with the assessment of the catchment area for the drinking water abstraction points and risk management in relation to that catchment area as provided for in the statutory instrument to be issued on the basis of section 50 (4a) of the Federal Water Act,
5. takes account of the treatment agents or disinfection methods which could be the reason for the presence of individual chemical substances and
6. must, if the proposal is made for the continuation of the testing plan without any changes, include a declaration by the operator to the effect that, in line with the risk management and taking account of nos. 2 to 5, no adaptation of the testing plan is necessary.

(2) A proposal for the adaptation of the testing plan as referred to in subsection (1) may propose that

1. a parameter be eliminated from the testing if the documentation of the carrying out and of the results of risk management as referred to in section 35 (3) shows that for at least three years the measured values in at least two samples taken regularly and at sampling points which are representative of the water supply system as well as all the other samples taken during that period have in each case been less than 30 per cent of the limit value set under this Ordinance; the uncertainty of measurement is not taken into account when assessing the measured values and
2. the frequency of testing in relation to a parameter be reduced if the documentation of the carrying out and of the results of risk management as referred to in section 35 (3) shows that for at least three years the measured values in at least two samples taken regularly and at sampling points which are representative of the water supply system as well as all the other samples taken during that period have in each case been less than 60 per cent of the limit value set under this Ordinance; the uncertainty of measurement is not taken into account when assessing the measured values.

(3) A proposal for the adaptation of the testing plan as referred to in subsection (1) may not propose any reduction in the scope or frequency of testing in relation to the following parameters:

1. the microbiological parameters *Escherichia coli* (*E. coli*) and intestinal enterococci and
2. the indicator parameters

- a) *Clostridium perfringens*, including spores,
- b) coliform bacteria,
- c) odour,
- d) taste,
- e) colony count at 22 °C,
- f) colony count at 36 °C,
- g) organic carbon,
- h) electrical conductivity and
- i) hydrogen ion concentration.

(4) A proposal is to be made for the adaptation of the testing plan as referred to in subsection (1) by extending the scope or increasing the frequency of testing in relation to specific parameters, including the parameters referred to in subsection (3), beyond what is required by section 28 if this is necessary to guarantee drinking water quality which meets the requirements under Division 2.

(5) The testing plan is to include a proposal for the frequency of testing and the sampling points in relation to the parameter concerned, giving due consideration to

- 1. the possible reasons for the potential presence of the relevant chemical substances or microorganisms in the drinking water and
- 2. the possible variability and long-term trend regarding the concentration of the relevant chemical substances or microorganisms in the drinking water.

(6) Raw water testing in relation to the indicator parameter somatic coliphages which goes beyond testing as required by section 36 (1) is to be taken into account in the proposals as referred to in subsection (1) if that requirement follows from the assessment as referred to in section 35 (2) no. 9.

Section 38

Decision-making procedure in relation to adaptation or continuation of testing plan or determination of obligations to conduct testing

(1) The documentation relating to the carrying out and to the results of risk management to be drawn up in accordance with section 35 (3) is to be provided to the public health office, in writing or electronically, giving due consideration to data privacy concerns,

- 1. before the deadlines specified in section 34 (2) sentence 1 where risk management is carried out for the first time
- 2. before the deadlines specified in section 34 (2) sentence 2 where a risk management review is carried out and
- 3. without delay after completion where risk management updates as referred to in section 34 (2) sentence 2 are carried out.

(2) On the basis of this documentation and of inspections of the water supply system conducted in accordance with section 55 (1) no. 1 and section 55 (2) no. 1, the public health office examines whether

- 1. the risk management meets the requirements under section 35 (1) and (2),
- 2. the risk management is complete, sufficient and plausible,
- 3. the proposal for the adaptation or continuation of the testing plan meets the requirements of section 37 and

4. the proposal for the adaptation or continuation of the testing plan plausibly follows from the risk management documentation.

The public health office may require a reworking of the risk management if it does not meet the requirements referred to in sentence 1.

(3) When providing the public health office with the documentation referred to in subsection (1), the operator of a water supply system makes an application for the public health office to

1. approve the adaptation or continuation of the testing plan in line with the proposal made in the documentation when reaching agreement as per section 28 (2) sentence 3 or
2. determine the scope and frequency of the testing as per section 29 (2) or (3) in line with the proposal made in the documentation.

(4) The public health office grants the application for the adaptation or continuation of the testing plan as referred to in subsection (3) no. 1 if

1. the risk management in relation to the water supply system meets the requirements under section 35 (1) and (2),
2. the proposal for the adaptation or continuation of the testing plan meets the requirements under section 37 and
3. the proposal for the adaptation or continuation of the testing plan plausibly follows from the risk management documentation.

(5) The public health office determines the scope and frequency of the testing in line with application made in accordance with subsection (3) no. 2 if

1. the risk management in relation to the water supply system meets the requirements of section 35 (1) and (2),
2. the proposal for the determination of the obligation to conduct testing meets the requirements of section 37 (1) and
3. the proposal for the determination of the obligation to conduct testing is plausibly justified by the risk management documentation.

(6) The public health office's grant of the application in accordance with subsection (4) or of the determination made in accordance with subsection (5) is valid for six calendar years. It is extended by a further six calendar years on application if it is shown, on the basis of testing in relation to all the parameters to be tested in accordance with section 28 or section 29 and of a risk management review and, where necessary, of a risk management update, that the conditions for the grant of the application continue to exist. Where an extension is granted, the samples for the testing referred to in sentence 2 may not have been taken more than 12 months prior to submission of the application.

(7) The grant of the application in accordance with subsection (4) or the determination made in accordance with subsection (5) may be revoked if the public health office would be justified, on the basis of facts which subsequently arise or become known, in not granting the application. Instead of revoking the grant of the application, the public health office may also, under the conditions set out in sentence 1, require the operator of the water supply system to update the risk management in full or in part in accordance with section 34 (2) sentence 2.

Division 8

Accredited testing laboratories

Section 39

Commissioning of accredited testing laboratory

(1) The drinking water testing, including sampling, required under this Ordinance may only be conducted by testing laboratories accredited therefor.

(2) Subsection (1) does not apply to testing in relation to the operational parameter turbidity in accordance with section 24 and to operational monitoring in accordance with section 30 (2). Where testing is conducted using measuring equipment, the equipment is to be operated and serviced in accordance with the manufacturer's specifications and is, like the testing methods, to be incorporated into in-house quality management.

(3) A commission given to an accredited testing laboratory to conduct testing must also encompass the taking of such samples for the respective testing.

(4) When commissioning an accredited test laboratory, operators of water supply systems contractually ensure that the accredited testing laboratory is required without delay to inform them of the following:

1. any ascertained deviations from the limit values, maximum values or requirements for microbiological, chemical and indicator parameters laid down in sections 6 to 8,
2. any attainment of the technical action value for the parameter *Legionella spec.* laid down in section 51 (1) in conjunction with Annex 3 Part II and of the notification thereof to the competent public health office in accordance with section 53 (1) and
3. any exceedance of the parametric values for radioactive substances laid down in accordance with section 9 sentence 2 in conjunction with Annex 4 Part I.

Section 40

Accredited testing laboratories

(1) Until such time as a statutory instrument is issued on the basis of section 38 (1) sentence 1 no. 11 of the Protection Against Infection Act, section 15 (4) sentences 2 to 5 and (5) and (6) and section 19 (3) sentence 5 of the Drinking Water Ordinance as published on 10 March 2016 (Federal Law Gazette I, p. 459), as last amended by Article 1 of the Ordinance of 22 September 2021 (Federal Law Gazette I, p. 4343), continues to apply to the accreditation of testing laboratories.

(2) The competent highest *Land* authority or another body competent under *Land* legislation is required to publish, either online or in another suitable manner, a list of the testing laboratories it has accredited. The list is to indicate the parameter scope for each testing laboratory.

Division 9

Conduct of drinking water testing

Section 41

Sampling point

(1) Drinking water samples are as a rule to be taken at the point of compliance as defined in section 10.

(2) In derogation from subsection (1), operators of centralised water supply systems or of decentralised water supply systems may take drinking water samples at a point at which it is not to be expected that the drinking water will be adversely affected, between the sampling point and the point at which the drinking water is transferred to a drinking water installation or another centralised or decentralised water supply system, in respect of the parameter to be tested. When granting an application for the adaptation of a testing plan in accordance with section 38 (4), the public health office may determine sampling points which meet requirements which differ from those set out in subsection (1) and in sentence 1. Sentence 1 applies accordingly to samples taken as part of the public health office's monitoring of centralised water supply systems and of decentralised water supply systems.

(3) After the completion of water treatment, operators of centralised water supply systems or of decentralised water supply systems may test, at the point at which the water exits the water treatment plant or in the distribution network, whether the reference value concerned referred to in the Notes in Annex 2 Part II in relation to the parameters chlorate, chlorite,

haloacetic acids or trihalomethanes is exceeded. If this reference value is not exceeded, the relevant limit value as set out in Annex 2 Part II is deemed to be complied with at the point of compliance as defined in section 10.

(4) Operators of water supply systems are required to take those drinking water samples which are to be tested in relation to the parameter *Legionella spec.* in accordance with section 31 (1) at several representative points in accordance with the generally recognised codes of practice and standards. Operators of water supply systems are required to ensure that sampling points which are suitable in accordance with the generally recognised codes of practice and standards are available in the water supply systems. When taking samples, the Federal Environment Agency's Recommendation on the Systemic Testing of Drinking Water Installations in Relation to *Legionella* under the Drinking Water Ordinance – Sampling, Testing Method and Indication of the Result as referred to in section 43 (5) is to be followed.

(5) In derogation from subsections (1) and (2), operators of water supply systems are required to take drinking water samples to measure radioactive substances at the point at which the water exits the water treatment plant, unless another sampling point is determined by agreement with the competent authority or the authority issues an order in accordance with section 61 no. 1. As part of its monitoring, the competent authority may take drinking water samples to measure radioactive substances at the point at which the water exits the water treatment plant or at another suitable point.

(6) If it is necessary to take samples for raw water testing in accordance with section 27 (2), operators are required to discuss the sampling point with the public health office or, where radioactive substances in the drinking water are concerned, with the competent authority.

Section 42

Sampling method

(1) Sampling for the purposes of testing water under this Ordinance is to be done in accordance with the generally recognised codes of practice and standards.

(2) It is presumed that the sampling done in accordance with subsection (1) conforms to the generally recognised codes of practice and standards

1. in relation to samples taken to test the microbiological quality of the drinking water in centralised water supply systems and decentralised water supply systems where DIN EN ISO 19458 is complied with, as described in purpose a) therein,

2. in relation to samples taken to test the microbiological quality of the drinking water, including in relation to the parameter *Legionella spec.* in accordance with section 31, in individual water supply systems, mobile water supply systems, building water supply systems and temporary water supply systems where

a) DIN EN ISO 19458 is complied with, as described in purpose b) therein, and

b) the Federal Environment Agency's Recommendation on the Systemic Testing of Drinking Water Installations in Relation to *Legionella* under the Drinking Water Ordinance – Sampling, Testing Method and Indication of the Result as referred to in section 43 (5) is followed in the case of testing in relation to the parameter *Legionella spec.* in accordance with section 31,

3. in relation to samples taken in the distribution network up to the point at which the water is transferred to the drinking water installation to test the chemical quality of the drinking water if DIN ISO 5667-5 is complied with.

(3) Where drinking water in a drinking water installation is to be tested in relation to the chemical parameters lead, copper and nickel, the samples are to be taken in such a manner that they are representative of consumers' average weekly drinking water intake. Graduated stagnation sampling is to be done in line with the Federal Environment Agency's Recommendation on Assessing Drinking Water Quality in Relation to the Parameters Lead, Copper and Nickel of December 2018 (Federal Health Bulletin 2019, p. 1026). When testing

the drinking water in a drinking water installation in relation to the parameters lead, copper and nickel as required in the context of implementing a reporting plan, both graduated stagnation sampling and random sampling may be done in line with the Federal Environment Agency's Recommendation as referred to in sentence 2.

(4) When taking samples to test the drinking water in a drinking water installation in relation to the indicator parameters aluminium and iron and in relation to the chemical parameters other than lead, copper and nickel referred to in Annex 2 Part II, the Federal Environment Agency's Recommendation as referred to in subsection (3) sentence 2 is to be followed.

(5) Where several samples are to be taken in relation to a parameter over the course of a year, the operator of a water supply system, the public health office and the competent authority are, as a general rule, to take the samples in such a manner that they are representative of the quality of the drinking water supplied or drawn off over the course of the entire year. Seasonal specifics are to be taken into account.

Section 43 **Testing methods**

(1) When testing the microbiological quality of drinking water, the testing methods described in the following technical standards are to be applied:

1. DIN EN ISO 9308-1 or DIN EN ISO 9308-2 as regards coliform bacteria and *Escherichia coli* (*E. coli*),
2. DIN EN ISO 7899-2 as regards intestinal enterococci,
3. DIN EN ISO 16266 as regards *Pseudomonas aeruginosa*,
4. DIN EN ISO 6222 as regards the detection of culturable microorganisms, colony count at 22 °C and colony count at 36 °C,
5. DIN EN ISO 14189 as regards *Clostridium perfringens*, including spores, and
6. DIN EN ISO 11731 as regards *Legionella spec.*

When testing water in relation to the indicator parameter somatic coliphages, DIN EN ISO 10705-2 is, as a general rule, to be applied as well as, where, depending on the ranges of concentration to be tested, an enrichment step is necessary for the testing to be conducted, ISO 10705-3.

(2) Testing methods other than those referred to in subsection (1) sentence 1 may be applied in the case of testing in relation to the parameters referred to in subsection (1) if the Federal Environment Agency has determined, on application, that the results achieved using those methods are, in accordance with the generally recognised codes of practice and standards, equivalent and at least as reliable as the results achieved using the testing methods referred to in subsection (1).

(3) The colony count of cultivable microorganisms at 22 °C and at 36 °C may also be measured using methods other than those referred to in subsection (1) sentence 1 no. 4 or a method other than that referred to in subsection (2) by analysing the number of colonies visible at six to eight times magnification formed from bacteria in 1 millilitre of the water to be tested in plate cultures with nutrient-rich, peptone-containing culture mediums (1 per cent meat extract and 1 per cent peptone) at a breeding temperature of (20 ± 2) degrees Celsius and (36 ± 1) degrees Celsius after (44 ± 4) hours of breeding time. Depending on which culture medium is used, the following methods may be used:

1. gelatine-agar culture medium: breeding temperature of (20 ± 2) degrees Celsius and (36 ± 1) degrees Celsius and a breeding time of (44 ± 4) hours or
2. agar culture medium: breeding temperature of (20 ± 2) degrees Celsius and (36 ± 1) degrees Celsius and a breeding time of (44 ± 4) hours.

The testing method described in sentences 1 and 2 may not be applied to drinking water intended to be supplied in sealed containers.

(4) The Federal Environment Agency publishes a list of the testing methods described in subsections (1) to (3) in the Federal Health Gazette.

(5) The Federal Environment Agency's Recommendation on the Systemic Testing of Drinking Water Installations in Relation to *Legionella* under the Drinking Water Ordinance – Sampling, Testing Method and Indication of the Result of December 2018 (Federal Health Gazette 2019, p. 1032), including the updated Recommendation of December 2022 (Federal Health Gazette 2023, p. 181), is to be followed, as are the requirements for the testing methods under subsection (1) sentence 1 no. 6 or subsection (2).

(6) When testing drinking water under this Ordinance in relation to the chemical and chemico-physical parameters referred to in Annex 2 and Annex 3, those testing methods are to be used which at a minimum are in accordance with the generally recognised codes of practice and standards and deliver sufficiently reliable measured values, thereby complying with the specific performance characteristics referred to in Annex 7 Part I. When testing drinking water

1. in relation to indicator parameters using the following reference methods to assess compliance with the requirements and limit values, conformity with the generally recognised codes of practice and standards is presumed:

- a) DIN 38404-10 as regards calcite dissolution capacity,
- b) DIN EN 27888 as regards electrical conductivity,
- c) DIN EN 1622 as regards odour and

2. in relation to chemical parameters and indicator parameters using the following reference methods to assess compliance with the requirements for performance characteristics, conformity with the generally recognised codes of practice and standards is presumed:

- a) DIN EN 1484 as regards organic carbon,
- b) DIN EN ISO 8467 as regards oxidisability,
- c) DIN EN ISO 7027-1 as regards turbidity.

Where the value for the uncertainty of measurement listed in Annex 7 Part I for the chemical parameter benzo(a)pyrene cannot be attained, a method of analysis is to be chosen which at a minimum complies with the state of the art. In such cases, the method's uncertainty of measurement may amount to up to 60 per cent of the limit value for the parameter benzo(a)pyrene in Annex 2 Part II.

(7) When testing drinking water under this Ordinance in relation to radioactive substances, those testing methods must be used which are in accordance with the generally recognised codes of practice and standards and are, at a minimum, suitable for measuring activity concentrations using the performance characteristics listed in Annex 7 Part II. The reference dose is calculated and assessed using the methods described in Annex 4 Parts II and III.

Section 44

Written record of test result

(1) Operators of water supply systems are required without delay to draw up a written record of each test they are required to conduct. Besides the test result, the written record must include the following information:

- 1. the address of the sampling point comprising the street name, house number, postcode and place name,
- 2. the designation of the sampling point,

3. the date on which the water sample was taken,
4. the date on which the water sample was tested and
5. the test method used.

The requirements under sentence 2 do not apply to written records of the results of tests conducted in accordance with sections 24 and 36 or to written records of the results of tests provided for under the operational monitoring programme pursuant to section 30.

(2) The competent highest *Land* authority or another body competent under *Land* legislation may determine that standardised forms or standardised electronic data processing operations are to be used to draw up written records. Operators of water supply systems are required to send a copy of the written record to the public health office no later than two weeks after completion of testing; this does not affect the obligations under section 47 to notify deviations and exceedances without delay. Copies of written records of the results of testing in relation to the parameter *Legionella spec.* as referred to in section 31 (1), of the results of testing in accordance with sections 24 and 36 and the results of testing provided for under the operational monitoring programme pursuant to section 30 need not be sent to the public health office. In the case of testing in relation to radioactive substances, the copy of the written record is also to be sent to the competent authority if that authority is not the public health office.

(3) Operators of water supply systems are required to keep the original of the written record on file for at least 10 years after testing is conducted. Sentence 1 also applies to a copy of a written record sent to an operator containing the results of testing conducted as part of monitoring in accordance with section 59 (4).

Division 10

Regular provision of information to connection owners and consumers

Section 45

Regular provision of information to connection owners and consumers in text form

(1) Operators of centralised water supply systems or of decentralised water supply systems are required, at least once a year, to provide the relevant connection owners with suitable and readily comprehensible information material in text form about the quality of the drinking water. Connection owners are required without delay to pass on the information material to the relevant consumers to whom they supply drinking water.

(2) Operators of mobile water supply systems or of temporary water supply systems with their own water abstraction or water treatment are required, at least once a year, to make suitable information material about the quality of the drinking water available in text form to the consumers concerned if the water supply system is operated as part of a commercial or public activity.

(3) The information material as referred to in subsections (1) and (2) is suitable if it was compiled on the basis of the results of drinking water testing in relation to microbiological, chemical and indicator parameters conducted as required by section 28 or section 29, in relation to radioactive substances as required by section 32 and, where available, on the basis of the results of drinking water testing in the context of the monitoring referred to in sections 54, 55 and 57, as well as the results of recent drinking water testing by order of the competent authority in accordance with section 61. On being provided as required by subsection (1) or on being made available as required by subsection (2), the test results may not be more than one year old, unless the most recent testing in relation to the parameter to be tested was permissibly conducted more than one year before the date on which it is provided as required by subsection (1) or made available as required by subsection (2).

Suitable information material includes

1. details about the treatment agents and disinfection methods used to treat the water in the water treatment plant and during distribution of the drinking water up to the

point at which the drinking water is drawn off, notwithstanding the obligation to make an announcement, without delay, in accordance with section 26 (1) and

2. the results of drinking water testing in relation to the parameter *Legionella spec.* as required by section 31 (1), where such testing has been conducted.

The operators of the respective water supply systems are required to make the individual drinking water testing results available to the connection owners concerned and consumers on request, even if they have already been provided with information material in accordance with subsection (1) or (2) or have been given access to data as provided for in section 46 (4). (4) In addition, operators of centralised water supply systems inform the connection owners concerned at least once a year about

1. the charges for and price of the drinking water supplied, per litre and cubic metre,
2. the volume of water purchased during the calendar year or billing period and, where technically feasible, about yearly trends of water purchasing compared to at least the last billing period,
3. the average annual volume of water purchased by comparable households,
4. the website containing the information referred to in section 46 and
5. the obligation to remove or decommission specific drinking water pipes or sections thereof as required by section 17 (1) and those cases in which it is appropriate to test a water supply system to see whether there are any drinking water pipes or sections of drinking water pipes which are made of lead.

There is no obligation to provide information as referred to in sentence 1 nos. 2 and 3 where operators do not have the relevant information available to them. Applying subsection (1) sentence 2 accordingly, connection owners are required to pass on information to the relevant consumers. Sentence 1 no. 5 applies up until 31 December 2026.

Section 46

Regular provision of online information to consumers

(1) The operator of a centralised water supply system informs consumers on a website in a user-friendly and customised way about

1. the name and address of the operator of the water supply system, the water supply zone, the approximate number of persons supplied, the water abstraction and water treatment method used, including the treatment agents and disinfection methods used,
2. recent and representative test results and the frequency of testing in relation to microbiological, chemical and indicator parameters according to the testing plan and in relation to radioactive substances in accordance with section 32, together with the limit value or parametric value concerned; when they are made available online the test results may not be more than one year old, unless the most recent test in relation to the parameter to be tested was permissibly conducted more than one year before the date on which the information is made available,
3. the hardness of the water as defined in section 9 of the Detergents and Cleaning Products Act (*Wasch- und Reinigungsmittelgesetz*) as well as the calcium, magnesium and potassium content of the water, specified in millimole per litre and milligram per litre,
4. the test results for other drinking water parameters which, in accordance with the generally recognised codes of practice and standards, are required in the selection of materials which come into contact with the drinking water,

5. health and consumer advice in relation to the drinking water if the public health office or the competent authority has given notification to the operator in accordance with section 62 (4) that there is cause for concern about adverse effects on human health or that there is a risk to human health,

6. the information referred to in section 35 (3) sentence 2 no. 7 concerning risk management in relation to the water supply system,

7. recommendations for

a) reducing drinking water consumption and other ways of using water responsibly according to the conditions at the location where the drinking water is made available or supplied and

b) avoiding adverse effects on human health stemming from stagnant drinking water.

(2) Operators of one or more water supply systems which individually or in total make available at least 10 000 cubic metres of drinking water per day or supply drinking water to at least 50 000 persons provide consumers with annually updated online information in a user-friendly and customised way about

1. the efficiency of and water leakage data in relation to the water supply system or water supply systems in accordance with the generally recognised codes of practice and standards,

2. the ownership structure of the water supplier,

3. the composition of the charges or prices per cubic metre of drinking water, including fixed and variable costs and costs linked to supplying drinking water in public spaces in accordance with section 50 (1) sentence 2 of the Federal Water Act, provided that the operator is responsible for supplying such drinking water and these costs form part of the calculation of the charges and

4. consumer complaints relating to the operator's obligations under this Ordinance if the information is available to the operator in summary or statistical form.

(3) Upon justified request, operators are required to make the information referred to in subsections (1) and (2) available to a consumer free of charge in a manner other than online.

(4) On application, operators of centralised water supply systems are required to provide a consumer with access to available data as referred to in subsection (1) nos. 2 and 3 dating back up to 10 years, calculated from the date of publication, at the earliest, however, for the period beginning on 24 June 2023.

Division 11

Operators' obligations in case of non-compliance with limit values or maximum values, in case of non-fulfilment of requirements and in case of unusual incidents; bans

Section 47

Obligations to notify

(1) Operators of water supply systems are required to notify the public health office or, where radioactive substances in the drinking water are concerned, the competent authority of the following without delay after obtaining knowledge thereof:

1. any unusual incidents in the area surrounding the water resource or in the water supply system which may have an impact on the quality of the drinking water,

2. any organoleptically perceivable adverse change in the drinking water, for example in terms of colour, odour, taste or turbidity,

3. any exceedance of the limit values for microbiological parameters laid down in section 6 (2) and (3) in conjunction with Annex 1 or any non-compliance with the microbiological requirements under section 6 (1),
4. any exceedance of the maximum values for microbiological parameters laid down in accordance with section 6 (4),
5. any exceedance of the limit values for chemical parameters laid down in section 7 (2) in conjunction with Annex 2 or any non-compliance with the chemical requirements under section 7 (1),
6. any exceedance of the maximum values for chemical parameters laid down in accordance with section 7 (3),
7. any non-compliance with or non-fulfilment of the limit values or requirements for indicator parameters laid down in section 8 (1) and (2) in conjunction with Annex 3 Part I,
8. any exceedance of the parametric values for radioactive substances laid down in section 9 sentence 2 in conjunction with Annex 4 Part I,
9. any non-compliance with or non-fulfilment of the values or different requirements for indicator parameters laid down in accordance with section 65 (3) sentence 3,
10. any exceedance of the values for chemical parameters laid down in accordance with section 65 (4) sentence 2,
11. any exceedance of the action values for chemical parameters laid down in accordance with section 66 (2) and
12. any sudden or continuous increase in test results in relation to the indicator parameter colony count at 22 °C or colony count at 36 °C, regardless of the testing method used.

(2) In addition to the incidents which are to be notified as required by subsection (1), operators of

1. centralised water supply systems or decentralised water supply systems are also required to give notification, in accordance with subsection (1), of any sudden or continuous increase in the measured values for the indicator parameters ammonium and turbidity in the water supply system or distribution network and
2. centralised water supply systems, decentralised water supply systems or individual water supply systems are also required to give notification, in accordance with subsection (1), of pressures on the raw water which may lead to an exceedance in the drinking water of limit values, maximum values, parametric values, action values or values under section 65 (3) or (4).

Section 48

Identifying causes and remedial action

(1) In the cases requiring notification referred to in section 47 (1), operators of centralised water supply systems, decentralised water supply systems, individual water supply systems, temporary water supply systems or, where the water is supplied as part of a commercial or public activity, mobile water supply systems are required without delay to

1. conduct testing to identify the causes of a notifiable incident,
2. take remedial action,

3. inform the public health office or, where radioactive substances in the drinking water are concerned, the competent authority about the result of the testing conducted as required by no. 1 and

4. to inform the public health office or, where radioactive substances in the drinking water are concerned, the competent authority about the remedial action taken as required by no. 2.

Sentence 1 no. 2 only applies where radioactive substances in the drinking water are concerned if the competent authority orders that operators are required to take remedial action.

(2) If the operator of an individual water supply system, mobile water supply system, building water supply system or temporary water supply system becomes aware of facts indicating that the drinking water installation is causing a change in the quality of the drinking water such that it does not meet the requirements under Division 2, then the operator is required without delay to

1. conduct testing to identify the cause of that change,

2. take remedial action,

3. inform the public health office or, where radioactive substances in the drinking water are concerned, the competent authority about the result of the testing conducted as required by no. 1 and

4. to inform the public health office or, where radioactive substances in the drinking water are concerned, the competent authority about the remedial action taken as required by no. 2.

Sentence 1 no. 2 only applies where radioactive substances in the drinking water are concerned if the competent authority orders that the operator is required to take remedial action.

(3) Subsection (1) sentence 1 nos. 2 and 4 and subsection (2) sentence 1 nos. 2 and 4 do not apply where the public health office or, where radioactive substances in the drinking water are concerned, the competent authority has issued no orders in accordance with section 63, section 65 (3) sentence 2 or section 65 (4) sentence 1 to take action.

(4) Operators of water supply systems are required without delay to establish the cause of any sudden or continuous increase in the generally recorded concentration of the indicator parameter ammonium.

(5) If the respective reference value cited in the Notes in Annex 2 Part II in relation to the parameters chlorate, chlorite, haloacetic acids or trihalomethanes is exceeded when testing is conducted in accordance with section 41 (3), the operator of the water supply system is required without delay to carry out further drinking water testing in relation to the parameter exceeded at the point at which the drinking water is transferred to the drinking water installation or at the drinking water draw-off point to establish whether the limit value under Annex 2 Part II applicable at the point of compliance as defined in section 10 is being complied with.

Section 49

Prohibition of supply

(1) Operators of water supply systems may not supply water as drinking water or make it available to others in the event of

1. non-compliance with the limit values or maximum values for microbiological parameters under section 6 (1) to (4),

2. non-compliance with the limit values or maximum values for chemical parameters under section 7 (1) to (3) or

3. non-compliance with the limit values or requirements for indicator parameters under section 8 (1) and (2) in conjunction with Annex 3 Part I.

(2) Subsection (1) does not apply

1. where notification has been given in accordance with section 47 from the date on which notification was given up to the public health office's decision on the action to be taken in accordance with sections 62 to 68, unless the conditions for the immediate interruption of the water supply pursuant to section 63 (3) are met,
2. where the public health office has made an assessment in accordance with section 62 (1) or given a decision in accordance with section 63 (1) sentence 3 no. 2 on the basis of which the affected water supply system or sections thereof may continue to be operated,
3. where, in the case of individual water supply systems, values for chemical parameters are to be tolerated as provided for in section 65 (4),
4. where values for indicator parameters are to be tolerated as provided for in section 65 (3) sentences 2 and 3 or
5. where a deviation has been permitted in relation to chemical parameters as provided for in section 66 (1), (2), (3) and (6).

Section 50

Operators' plan of action

(1) Operators of centralised water supply systems or of decentralised water supply systems are required to draw up a plan of action in compliance with sentence 3. Giving due consideration to local conditions relating to the water supply, the plan of action must include details about

1. how, in the event that the water supply is to be interrupted as set out in section 63 (1) sentence 3 no. 3 and (3) sentence 1, another water supply is to be used as a substitute for the interrupted water supply and
2. which bodies are to be informed in the event of the water supply being interrupted or in the event of any deviation from the requirements for drinking water quality under Division 2, and who is required to provide that information.

The plan of action must be available at the latest upon the commissioning of the water supply system. It is to be updated where significant changes have occurred in relation to the conditions and details referred to in sentence 2, but at least every five years.

(2) The plan of action must be approved by the competent public health office.

(3) The competent highest *Land* authority or another body competent under *Land* legislation may determine that standardised forms or standardised electronic data processing operations are to be used to draw up the plans of action.

Section 51

Operators' obligations to act in relation to *Legionella spec.*

(1) Where the technical action value for the parameter *Legionella spec.* laid down in Annex 3 Part II is attained in a drinking water installation, the operator of the water supply system in which the drinking water installation is located is required without delay to

1. notify the public health office thereof, unless the operator has proof that notification has already been given by the accredited testing laboratory as required by section 53 (1),
2. conduct testing to identify the causes; this testing must include an on-site inspection and an examination of whether the generally recognised codes of practice and standards are being complied with in the drinking water installation concerned,

3. produce a written risk assessment giving due consideration to the Federal Environment Agency's Recommendations on the Conduct of a Risk Analysis Under the Drinking Water Ordinance – Measures in the Event of Exceedance of the Technical Action Value for *Legionella* of December 2012 (Federal Health Gazette 2023, p. 188) and

4. take that action which is necessary in accordance with the generally recognised codes of practice and standards to protect consumers' health, having regard to the Federal Environment Agency's Recommendations as referred to in no. 3.

(2) The risk assessment as referred to in subsection (1) no. 3 is to systematically determine and assess the risks to human health and the events or situations which can lead to the affected water supply system giving rise to a risk to human health. In addition to this determination and assessment, the risk assessment must include the following at a minimum:

1. a description of the water supply system,
2. any observations made during the on-site inspection as referred to in subsection (1) no. 2,
3. any ascertained deviations from the generally recognised codes of practice and standards,
4. other insights relating to the water quality, the water supply system and its use and
5. the results of testing in relation to the parameter *Legionella spec.*, including details regarding the sampling points in the drinking water installation and the date and time when the samples were taken.

(3) The operator is required without delay to notify the public health office of action taken in accordance with subsection (1) no. 4. On the request of the public health office, it is to be provided with the risk assessment without delay.

(4) The operator is required to document, in writing or on data carriers, the action taken in accordance with subsection (1) no. 4 without delay after completion. The operator is required to keep the documentation available for 10 years after completion of the action taken and to provide it, without delay, to the public health office on request.

Section 52

Provision of information to consumers about exceedances of limit values, maximum values, parametric values or about attainment of technical action value

(1) If the public health office or the competent authority orders that action be taken to protect against hazards in accordance with section 63 (1) or (3), the operator of the affected water supply system is required, following a discussion with the public health office or competent authority, without delay to

1. inform the relevant consumers about any cause for concern about adverse effects on human health or any risk to human health and about the causes thereof, about the limit value, maximum value or parametric value which has been exceeded and about action taken, in particular about bans or restrictions on water use,
2. give the relevant consumers that advice in regard to drinking water consumption and use which is necessary owing to the action taken, in particular to avoid consumption of stagnant water, and to regularly update that advice,
3. inform certain groups of consumers in relation to whom there is particular cause for concern about adverse effects on human health or a risk to human health about that fact and to indicate possible action they can take to protect themselves,

4. inform the relevant consumers as soon as there is demonstrably no longer any cause for concern about adverse effects on human health or a risk to human health and about the resumption of normal operations and
5. inform the operators of water supply systems drawing drinking water from the affected water supply system about the action which was ordered to be taken.

In the cases referred to in sentence 1 no. 5, the obligations to inform under sentence 1 also apply to the operators of water supply systems drawing drinking water from the affected water supply system.

(2) If, in accordance with section 66, the public health office permits a deviation from the limit values or maximum values for chemical parameters which is not likely to be eliminated within 30 days on the basis of action taken in accordance with section 65 (2), the operator of the water supply system, in consultation with the public health office, is required without delay to

1. inform the relevant consumers and the operators of other water supply systems affected by the deviation that the deviation has been permitted and
2. advise certain groups of consumers in relation to whom there is cause for concern about adverse effects on human health on account of the deviation.

(3) The relevant consumers are informed by the operator of a water supply system without delay after the operator has received the following information in relation to the parameter *Legionella spec.*:

1. the results of the risk assessment carried out in accordance with section 51 (1) no. 3 and
2. restrictions on the use of drinking water and other recommendations made to the relevant consumers.

Division 12

Obligations incumbent on accredited testing laboratory

Section 53

Accredited testing laboratory's obligation to notify and obligation to report in relation to *Legionella spec.*

(1) Where an accredited testing laboratory establishes in the course of testing drinking water in relation to the parameter *Legionella spec.* in accordance with section 31 that the technical action value laid down in Annex 3 Part II has been attained, it is obliged to notify the public health office responsible for monitoring the water supply thereof without delay.

(2) The notification as required by subsection (1) must contain the following details:

1. the name, address, telephone number and email address of the notifying accredited testing laboratory,
2. the name, address, telephone number and email address of the operator of the affected water supply system and, if there is one, the person acting on the operator's behalf,
3. the street name, house number, postcode and place name of the sampling point location,
4. a designation of the sampling point,
5. the date and time when the sample was taken,
6. all the results of testing in relation to the parameter *Legionella spec.* conducted as part of systemic testing in accordance with section 31 and

7. confirmation that the operator of the affected water supply system and, if there is one, the person acting on the operator's behalf were informed that the technical action value has been attained.

(3) The competent highest *Land* authority or another body competent under *Land* legislation may determine that standardised forms or standardised electronic data processing operations are to be used when giving notification as required by subsection (1).

(4) Accredited laboratories which conduct testing in accordance with section 31 are required to report to the Federal Environment Agency by the end of 1 March each year, for the first time by the end of 1 March 2026, the following data on testing in relation to the parameter *Legionella spec.* in accordance with section 31 conducted in the preceding calendar year:

1. the name, address, contact person, telephone number and email address of the testing laboratory as well as the registration number issued to the testing laboratory by the German Accreditation Body,
2. the number of drinking water installations tested in relation to the parameter *Legionella spec.*,
3. the number of drinking water installations tested in which the technical action value for the parameter *Legionella spec.* was attained in at least one sample,
4. the total number of samples tested in relation to the parameter *Legionella spec.* and
5. the number of samples in which the technical action value for the parameter *Legionella spec.* was attained.

(5) The Federal Environment Agency determines standardised forms and standardised electronic data processing operations to be used for the report as referred to in subsection (4) and publishes them online as well as in the Federal Health Gazette.

Division 13 Monitoring

Section 54

Monitoring by public health office

(1) The public health office monitors water supply systems in terms of compliance with the requirements under this Ordinance and fulfilment of the obligations incumbent on the operators of water supply systems on the basis of this Ordinance. This does not apply to the monitoring conducted by the competent authority with regard to

1. radioactive substances in accordance with section 57 and
2. fulfilment of the obligations to inform under section 45 (4) sentence 1 nos. 1 to 4 and section 46 (2) nos. 1 to 3.

(2) The public health office is required to monitor the following water supply systems:

1. centralised water supply systems,
2. decentralised water supply systems,
3. individual water supply systems,
4. mobile water supply systems if the drinking water is supplied as part of a commercial or public activity,
5. building water supply systems if the drinking water is supplied as part of a public activity and
6. temporary water supply systems.

(3) The public health office may incorporate mobile water supply systems and building water supply systems into its monitoring beyond those cases which are designated in subsection (2) nos. 4 and 5 if this is necessary to protect human health or to ensure compliance with the requirements for the quality of the drinking water under Division 2.

Section 55

Scope of monitoring by public health office

(1) In the case of the water supply systems as referred to in section 54 (2) nos. 1 to 3, the monitoring conducted in accordance with section 54 (1) sentence 1 in particular includes

1. the inspection of the water supply system and of
 - a) the related protected areas or
 - b) the area surrounding the water catchment system if no protected areas have been determined and if the area surrounding the water catchment system is relevant for the water abstraction and
2. the taking and testing of water samples.

(2) In the case of those water supply systems as referred to in section 54 (2) nos. 4 to 6, the monitoring conducted in accordance with section 54 (1) sentence 1 in particular includes the following:

1. the inspection of the water supply system if the public health office deems an inspection necessary and
2. the taking and testing of water samples.

(3) The public health office decides at what frequency it conducts the monitoring as referred to in section 54 (1) sentence 1. In the case of the following water supply systems, the public health office is required to conduct the monitoring at least at the following frequency:

1. in the case of centralised water supply systems and of decentralised water supply systems, once a year or, if the monitoring has not led to any significant objections over a period of four years and the public health office deems a reduction in the frequency of the monitoring appropriate, at longer intervals, though at least once every three years,
2. in the case of individual water supply systems, at intervals of no more than five years,
3. in the case of mobile water supply systems,
 - a) as a rule once every three years if they are operated as part of a commercial or public activity and
 - b) as a rule four times a year in the case of vehicles transporting water and
4. in the case of temporary water supply systems, as a rule once a year if they are operated as part of a commercial or public activity.

(4) Monitoring is not, as a general rule, to be announced ahead of time.

(5) The public health office determines the scope of the taking and testing of water samples under subsections (1) and (2). In relation to parameters for which it is to be assumed that they may undergo adverse changes in the drinking water installation, representative drinking water testing is to be arranged in the respective water supply zone at least at the frequency which follows from Annex 6 Part I in the context of the monitoring of drinking water drawn from drinking water installations. Parameters for which it is to be assumed that they may undergo adverse changes in the respective drinking water installation include, in particular, the chemical parameters referred to in Annex 2 Part II and the indicator parameters coliform

bacteria, colony count at 22 °C and colony count at 36 °C. Samples are to be taken at the drinking water draw-off points in building water supply systems and in temporary water supply systems without their own water abstraction for the purpose of the testing required under sentence 2. In addition to the requirements under section 42, the samples taken may not be network samples.

Section 56

Public health office's reporting plan for water supply zone

(1) Each calendar year the public health office determines a plan for each water supply zone to ensure that the testing data required for the fulfilment of the reporting requirement under section 69 (1) are collected (reporting plan).

(2) The reporting plan can only allow for testing in relation to a water supply zone conducted

1. by operators of centralised water supply systems and of decentralised water supply systems in accordance with section 28,
2. by operators of temporary water supply systems in accordance with section 29 (3) sentence 1, unless they have their own water abstraction,
3. by operators of building water supply systems and
4. as part of the monitoring conducted in accordance with sections 54 and 55 in relation to the water supply systems referred to in nos. 1 to 3.

(3) The reporting plan must provide for drinking water testing in a water supply zone

1. in relation to all the parameters laid down in Annexes 1 to 3 Part I,
2. to be conducted at the frequency which follows from Annex 6 Part I and
3. for which samples are taken
 - a) at sampling points as defined in section 41 which are representative of the water supply zone and
 - b) in line with the sampling method described in section 42.

The reporting plan may derogate from the requirements under sentence 1 in relation to parameters which are not expected to undergo any adverse changes in the drinking water installation if an application for the corresponding adaptation of the testing plan drawn up by the operator of a water supply system which is located in that water supply zone was granted in accordance with section 38 (4). The reporting plan need not, as a general rule, include any testing in relation to the parameter copper if the hydrogen ion concentration in the water supply zone means the water has a pH value greater than or equal to 7.8.

(4) The competent highest *Land* authority or another body competent under *Land* legislation may determine that

1. standardised forms or standardised electronic data processing operations are to be used to draw up the reporting plans and
2. the reporting plans are to be provided to the competent highest *Land* authority or another body competent under *Land* legislation on specified dates.

Section 57

Competent authority's monitoring in relation to radioactive substances

(1) The competent authority monitors centralised and, where testing of radioactive substances has been ordered, decentralised water supply systems to establish whether the operator of those water supply systems is complying with the obligations to act and to notify in relation to radioactive substances in the drinking water. Other water supply systems may be included in the monitoring.

(2) The monitoring conducted in accordance with subsection (1) includes inspections of the water supply systems and the taking and testing of water samples. The competent authority may limit its monitoring to examining the results of the testing required to be conducted by the operator of a water supply system in accordance with section 32.

(3) The competent authority decides at what frequency it conducts the monitoring as required by subsection (1).

(4) Monitoring as required by subsection (1) does not apply if, as set out in section 33 (1), the authority competent has determined that radioactive substances are not present in the water supply zone in concentrations which are expected to lead to an exceedance of parametric values for radioactive substances.

Section 58

Obligations to cooperate and tolerate

(1) In addition to the obligations and powers under section 15a of the Protection Against Infection Act, the obligations and powers under subsections (2) and (3) also apply to the public health office's monitoring as required by section 54 and to the competent authorities' monitoring as required by section 57. The books or other documents as referred to in section 15a (3) sentence 1 no. 3 of the Protection Against Infection Act include, in particular,

1. the records as referred to in section 25 (1), the documentation as referred to in section 27 (3), the documents on which the documentation as referred to in section 35 (3) is based, the written records as referred to in section 44 and the records as referred to in section 51 (4),
2. the most up-to-date version of the technical plans relating to the water supply system and
3. documents relating to the protected areas belonging to the water supply system or, if no protected areas have been designated, documents relating to the area surrounding the water catchment system if the area surrounding the water catchment system has a bearing on water abstraction.

(2) On request, operators of water supply systems are required to submit the following documents to the public health office or, where radioactive substances in the drinking water are concerned, to the competent authority:

1. the technical plans relating to a planned or existing water supply system,
2. where structural or operational modifications are to be made, the technical plans relating to that part of the water supply system affected by the modifications and
3. documents relating to the protected areas or, if no protected areas have been designated, documents relating to the area surrounding the water catchment system if the area surrounding the water catchment system has a bearing on water abstraction.

(3) On request, operators of water supply systems are required to submit to the public health office the following documents relating to a non-drinking water system:

1. technical plans relating to the planned or existing non-drinking water system and
2. where structural or operational modifications are to be made to the non-drinking water system, at a minimum the technical plans relating to that part of the non-drinking water system affected by the modifications.

Section 59

Conduct of testing as part of monitoring by public health office or competent authority

- (1) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority may itself take or test water samples as part of its monitoring of water supply systems or may commission an accredited testing laboratory to do so.
- (2) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority may request the operator of the water supply system to name a specific accredited testing laboratory which is to take or test water samples.
- (3) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority may order that the operator of the water supply system arrange for the testing necessary as part of the monitoring to be conducted and to commission an accredited testing laboratory; in such cases, the operator of the water supply system is required to provide the public health office or the competent authority with the test results.
- (4) In the cases referred to in subsections (1) and (2), the public health office or, where radioactive substances in the drinking water are concerned, the competent authority informs the operator of the water supply system of the result of the testing conducted as part of the monitoring.

Section 60

Written record of monitoring

- (1) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority is required to keep a written record of the results of the monitoring.
- (2) The competent highest *Land* authority or another body competent under *Land* legislation may determine that standardised forms or standardised electronic data processing operations are to be used to compile the written records.
- (3) The operator of the water supply system is to be provided with a copy of the written record. The operator of the water supply system is required to keep the copy provided on file for at least 10 years.
- (4) The public health office and the competent authority are required to keep the written record on file for 10 years.

Division 14

Hazard prevention and hazard protection

Section 61

Orders issued by public health office or competent authority in relation to hazard prevention

Where it is necessary, giving due consideration to the circumstances of the particular case, in order to protect human health or to ensure the quality of the drinking water in compliance with one of the requirements under Division 2, the public health office or, where radioactive substances in the drinking water are concerned, the competent authority may order the operator of a water supply system to

1. have the samples to be tested taken by a specific accredited testing laboratory at a specific sampling point using specific methods and at specific times,
2. conduct specific testing using a specific testing method,
3. without delay conduct specific testing in addition to the regularly conducted testing,
4. conduct the tests incumbent on the operator pursuant to sections 28, 29, 31 and 32
 - a) at shorter intervals than those specified in those provisions and

- b) on a larger number of samples,
- 5. conduct testing to establish
 - a) whether microorganisms other than those tested in accordance with Annexes 1 and 3 are present in the drinking water in concentrations which give cause for concern about adverse effects on human health and
 - b) whether parameters which are not microorganisms other than those tested in accordance with Annexes 2 and 3 are present in the drinking water in concentrations which give cause for concern about adverse effects on human health or
- 6. take any action which is necessary to
 - a) eliminate contamination the existence of which is indicated by one of the following circumstances:
 - aa) exceedance of the limit values for microbiological and chemical parameters laid down in accordance with section 6 (2) and section 7 (2) in conjunction with Annexes 1 and 2,
 - bb) non-compliance with or non-fulfilment of the limit values and requirements for indicator parameters laid down in accordance with section 8 (1) sentence 1 and (2) in conjunction with Annex 3 Part I,
 - cc) exceedance of the maximum values for microbiological and chemical parameters laid down by the public health office in accordance with section 6 (4) and section 7 (3),
 - dd) non-compliance with the requirements for treatment agents and disinfection methods laid down in accordance with section 20 (1) and (2) or
 - ee) another circumstance or
 - b) prevent future contamination.

Section 62

Assessment of hazards and risks

(1) The public health office is required without delay to assess whether there is any cause for concern about adverse effects on human health where it learns that the drinking water

- 1. in a water supply system does not comply with the limit values for microbiological and chemical parameters laid down in section 6 (1) to (3) and section 7 (1) and (2) in conjunction with Annexes 1 and 2,
- 2. in a water supply system does not comply with the maximum values for microbiological and chemical parameters laid down by the public health office in accordance with section 6 (4) and section 7 (3),
- 3. in a water supply system does not comply with the limit values and does not fulfil the requirements for indicator parameters laid down in section 8 (1) sentence 1 and (2) in conjunction with Annex 3 Part I,
- 4. in a water supply system does not comply with the value for indicator parameters laid down by the public health office in accordance with section 65 (3) sentence 3 or the requirement for indicator parameters laid down by the public health office in accordance with section 65 (3) sentence 3,

5. in an individual water supply system does not comply with the value for chemical parameters laid down by the public health office in accordance with section 65 (4) sentence 2,
6. in a water supply system does not comply with the action value for chemical parameters laid down by the public health office in accordance with section 66 (2) or
7. in a water supply system exceeds a guidance value for substances and compounds in the applicable version of the watch list referred to in Article 13 (8) of Directive (EU) 2020/2184.

The public health office is in particular required to assess whether the affected water supply system or sections thereof can continue to be operated for the time being.

(2) If it becomes known to the public health office that the limit value for the parameter *Clostridium perfringens*, including spores, under Annex 3 Part I has been exceeded in the drinking water in a water supply system, the public health office without delay arranges for investigations to be conducted in the supply system to ensure that there is no cause for concern about adverse effects on human health owing to the presence of pathogens, for example *Cryptosporidium* or *Giardia*.

(3) If it becomes known to the competent authority that one of the parametric values for radioactive substances laid down in section 9 sentence 2 in conjunction with Annex 4 Part I is exceeded in the drinking water in a water supply system, then the competent authority is required without delay to assess whether the presence of radioactive substances in the drinking water poses a risk to human health which necessitates the taking of action.

(4) The public health office or the competent authority without delay notifies the operator of the water supply system giving cause for concern or posing a risk about the result of the assessments conducted in accordance with subsections (1) to (3) and of the investigations conducted in accordance with subsection (2). Where supply chains are involved, the public health office or the competent authority ensures, where necessary by order, that the operators of other affected water supply systems are likewise to be informed about the result without delay.

Section 63

Orders to take action issued by public health office or competent authority in relation to hazard prevention concerning water supply systems

(1) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority orders that the necessary action be taken if, on the basis of the assessment conducted in accordance with section 62 (1), there is cause for concern about adverse effects on human health, if, on the basis of the investigations conducted in accordance with section 62 (2), there is cause for concern about adverse effects on human health or if, on the basis of the assessment conducted in accordance with section 62 (3), there is a risk to human health. In the case of individual water supply systems, the public health office or the competent authority may order that the necessary action be taken if this is deemed necessary to protect human health. As a rule, the public health office or the competent authority issues an order to the effect that

1. the operator of the affected water supply system is required to arrange for the provision of an alternative water supply if this is possible using reasonable effort,
2. the affected water supply system or sections thereof may continue to be operated under certain conditions and that the necessary action is to be taken if it is not possible to switch to an alternative water supply as referred to in no. 1 and if adverse effects on human health can be ruled out by imposing those conditions and taking that action or
3. the operation of the affected water supply system or sections thereof is to be interrupted if it is not even possible to take the action referred to in no. 2.

(2) When deciding what action is necessary, the public health office and the competent authority are also required to give due consideration to those concerns about adverse effects on human health which would arise if the drinking water supply were to be interrupted or its drawing off or use were to be restricted.

(3) The public health office is required, where necessary by order, to ensure that the operator of the affected water supply system immediately interrupts the water supply in the affected pipeline network or in the affected sections of pipeline network if the drinking water in the pipeline network

1. is contaminated with pathogens within the meaning of section 2 no. 1 of the Protection Against Infection Act in concentrations which are expected to have immediate adverse effects on human health and there is no means of disinfecting the contaminated drinking water,

2. is contaminated with chemical substances in concentrations which are expected to have acute adverse effects on human health.

Derogations from subsection (1) sentence 3 no. 3 and from sentence 1 are only permitted where this is necessary to maintain public security and if drinking water use is simultaneously restricted.

(4) Any interruption of the operation and return to the operation of the affected water supply system are required to be done in accordance with the generally recognised codes of practice and standards.

Section 64

Orders issued by public health office in relation to hazard protection concerning drinking water installations

(1) If the non-compliance with or non-fulfilment of the limit values, maximum values and requirements for microbiological, chemical and indicator parameters laid down in sections 6 to 8 is to be attributed to a drinking water installation, the public health office may order that the operator of the affected water supply system is required to inform and advise the affected consumers about the following:

1. the conditions under which the drinking water may be consumed and used,
2. action which consumers can take, in particular that which serves the avoidance of the risks to human health stemming from the drinking water installation and
3. restrictions on drinking water use which consumers should apply.

(2) In the case of drinking water installations in water supply systems which are at least also operated as part of a public activity, the public health office must issue an order that the action referred to in subsection (1) be taken.

(3) Where an order is issued in accordance with subsection (1) or (2), the public health office is required to advise the operator of the affected water supply system about

1. what action can be taken in relation to the water supply system to reduce or eliminate those risks which may result from the non-compliance or non-fulfilment and
2. what matters and how the affected consumers can be informed and advised as required by subsection (1).

(4) In the cases referred to in subsections (1) and (2), the public health office may recommend that the operator of the affected water supply system carry out a risk assessment, in accordance with the generally recognised codes of practice and standards, of the drinking water installation. This does not affect the obligation to produce a risk assessment in accordance with section 51 (1) no. 3.

Section 65

Identifying causes and orders to take action issued by public health office or competent authority

(1) If the cause of the non-fulfilment of the requirements laid down in sections 5 to 9 is not known, the public health office or, where radioactive substances are concerned, the competent authority without delay orders an investigation to identify the cause or itself conducts that investigation.

(2) In the case of non-compliance with the limit values and maximum values for the microbiological and chemical parameters laid down in sections 6 and 7, the public health office without delay orders that that action be taken which is necessary to re-establish the quality of the drinking water in line with the requirements under Division 2. For a period of 16 weeks after the commissioning of a newly constructed drinking water installation no action as referred to in sentence 1 is to be taken on account of an exceedance of the limit values for the parameters lead, copper or nickel caused by that drinking water installation if the concentration measured is not higher than double the limit value concerned in Annex 2 Part II.

(3) In the case of non-compliance with or non-fulfilment of the limit values or requirements for indicator parameters laid down in section 8 in conjunction with Annex 3 Part I, the public health office orders that that action be taken which is necessary to re-establish the quality of the drinking water in line with the requirements under Division 2. After examining the individual case, the public health office may dispense with ordering that any action be taken if there is no cause for concern about adverse effects on human health and no adverse effects on those materials coming into contact with the drinking water are to be expected. The public health office determines, in relation to the indicator parameter concerned, up to which value or with what differing requirement and for what period of time the non-compliance or non-fulfilment will be tolerated if there is no cause for concern about adverse effects on human health.

(4) In the event of non-compliance with the limit values for chemical parameters laid down in section 7 (2) in conjunction with Annex 2 or with a maximum value for chemical parameters laid down in accordance with section 7 (3) in an individual water supply system, the public health office may, after examining the individual case and with the agreement of the competent highest *Land* authority or another body competent under *Land* legislation, dispense with ordering that action be taken pursuant to subsection (2) if adverse effects on human health can be ruled out. The public health office determines, in relation to the chemical parameter concerned, up to what value and for what period of time the non-compliance will be tolerated.

Section 66

Permission to deviate from limit values or maximum values for chemical parameters

(1) Where, in the case of exceedance of one of the limit values for chemical parameters laid down in section 7 (2) in conjunction with Annex 2 or of one of the maximum values for chemical parameters laid down in section 7 (3), the quality of the drinking water in compliance with the requirements under Division 2 cannot immediately be re-established by means of action taken in accordance with section 65 (2), the public health office may permit a temporary deviation from the limit value or maximum value exceeded if

1. the public health office, when conducting the assessment in accordance with section 62 (1) nos. 1 and 2, reaches the conclusion that the deviation gives no cause for concern about adverse effects on human health,
2. the water supply in the affected section of the water supply zone cannot be maintained by any other reasonable means,
3. the drinking water is not intended to be supplied in sealed containers,
4. the system in question is not an individual water supply system and

5. the cause of the exceedance is to be attributed to
- a) a new catchment area for the drinking water abstraction points,
 - b) a demonstrably new source of contamination in the catchment area for the drinking water abstraction points,
 - c) a parameter which was to be tested for the first time after 24 June 2023 or
 - d) an unforeseeable and exceptional situation in the water supply system, in particular in an existing catchment area for the drinking water abstraction points, with exceedances of the limit values or maximum values which are likely to be temporary in nature.

(2) Where a deviation is permitted in accordance with subsection (1), the public health office determines the period within which the deviation is to be eliminated and a value for the chemical parameter concerned which is permissible during that period (action value). The period is to be as short as possible and may not exceed three years. Before the permission for the deviation given in accordance with subsection (1) expires, the public health office examines whether suitable action has been taken and whether the limit value or maximum value for the chemical parameter concerned is no longer exceeded.

(3) In exceptional circumstances the public health office may, in the cases referred to in subsection (1) no. 5 (a) to (c) where there is ongoing exceedance of the limit value or maximum value, give permission for a deviation for a maximum of a further three years after approval by the competent highest *Land* authority or another body competent under *Land* legislation.

(4) Any permission to deviate which is given in accordance with subsections (1) and (3) must specify the following details regarding the parameter concerned:

- 1. the designation and geographical description of the water supply zone, the volume of drinking water supplied per day and the number of persons supplied,
- 2. the reason for the non-compliance with the limit value or maximum value concerned,
- 3. the test results concerning the minimum, median and maximum values from the last three years,
- 4. the number of persons affected and whether or not food businesses are affected in a manner which will have a bearing on ensuring hygiene,
- 5. the period of validity of the permission to deviate and the action value provided for the parameter concerned,
- 6. a suitable programme of control measures to be taken by the operator, where necessary including an increased testing frequency compared to the obligations to conduct testing under sections 28 and 29 and
- 7. a summary of the planned remedial action together with
 - a) a timetable for the action to be taken,
 - b) an estimate of the costs of the action to be taken and
 - c) details concerning the review of action taken.

On request, the operator of a water supply system for which permission to deviate has been applied is required to provide the public health office with details which are not known to the public health office.

(5) The details as referred to in subsection (4) need not be included in the permission to deviate if the public health office reaches the conclusion that the water supply need not be

interrupted and the deviation can be remedied within 30 days by taking the action as referred to in section 65 (2). This does not apply where the limit value or maximum value concerned has already not been complied with for a total of more than 30 days within 12 months prior to the current deviation.

(6) Deviations permitted in accordance with section 10 (2) of the Drinking Water Ordinance as published on 10 March 2016 (Federal Law Gazette I, p. 459), as last amended by Article 1 of the Ordinance of 22 September 2021 (Federal Law Gazette I, p. 4343), continue to be valid until the end of their term. Where deviations have not yet been permitted for a second time, the permissions may be renewed under the conditions of subsection (3).

Section 67

Provision of information to affected consumers

(1) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority is required, where necessary by order, to ensure that operators of water supply systems comply with the obligations to inform under section 52.

(2) The public health office or, where radioactive substances in the drinking water are concerned, the competent authority ensures that the affected consumers are informed without delay where

1. the public health office has determined in accordance with section 62 (1) that there is cause for concern about adverse effects on human health or
2. the competent authority has determined in accordance with section 62 (3) that there is a risk to human health.

The information to be provided in accordance with sentence 1 includes information about the circumstance which, in the cases referred to in section 62 (1) sentence 1 or (3), provides the basis for the establishment of a cause for concern or a risk in accordance with sentence 1 no. 1 or 2, as well as health advice and advice on drinking water use. The information is to be required to be provided online in a user-friendly and customised manner as well as in another manner if this is necessary on the grounds of expediency or on a reasoned request by customers.

(3) If the competent authority has reason to believe that, from the perspective of radiation protection, there could be a risk to the health of those persons who draw water from an individual water supply system, then the competent authority informs the operator of that water supply system about the possible risk and any possible preventive action to be taken under the operator's own responsibility.

Section 68

Specific action by public health office relating to *Legionella spec.*

(1) If it becomes known to the public health office that the technical action value for the parameter *Legionella spec.* laid down in Annex 3 Part II has been attained in a drinking water installation as referred to in section 51 (1) and the operator of the affected water supply system does not fulfil the obligations to take action under section 51 (1) to (3), then the public health office requests the operator to meet these obligations to act and sets a deadline therefor.

(2) If the operator of the affected water supply system does not fulfil the obligations to take action in due time and in full after being requested to do so by the public health office in accordance with subsection (1), then the public health office examines whether and within what period action to protect human health is necessary and, where necessary, orders that that action be taken. This does not affect the public health office's powers under section 61.

(3) Where immediate action is necessary in view of the extent of an exceedance of the technical action value for the parameter *Legionella spec.* and having regard to any risk groups which may be affected, the public health office may order that the operator of the affected water supply system immediately inform the affected consumers or take other action to protect human health.

Division 15 Reporting

Section 69

Authorities' reporting requirements

(1) By the end of 30 April of each year the public health office and, where radioactive substances in the drinking water are concerned, the competent authority are required to provide the competent highest *Land* authority or another body competent under *Land* legislation with a data set relating to the previous calendar year on the quality of the drinking water in water supply zones in which at least 10 cubic metres of drinking water is supplied per day or in which at least 50 persons are supplied. The data set comprises

1. key data relating to the water supply zones,
2. for each water supply zone
 - a) the total number of tests per parameter conducted in accordance with section 32, section 57 or in line with the public health office's reporting plan under section 56 and
 - b) all the results of the tests referred to in letter (a),
3. for water supply zones in which exceedances of the limit values for microbiological parameters laid down in section 6 (2) in conjunction with Annex 1, of the limit values for chemical parameters laid down in section 7 (2) in conjunction with Annex 2 or of the parametric values for radioactive substances laid down in section 9 sentence 2 in conjunction with Annex 4 Part I were determined, the action as referred to in section 63 (1) and (3) and as referred to in section 65 (2),
4. in the case of the exceedances referred to in no. 3 and other incidents relating to the drinking water supply if the exceedance or the incident gave cause for concern about adverse effects on human health, lasted for more than 10 consecutive days and affected at least 1 000 persons (reportable incident), the following details:
 - a) the nature of the reportable incident,
 - b) the cause of the reportable incident and
 - c) any action taken and
5. deviations from limit values or maximum values for chemical parameters permitted by the public health office in accordance with section 66 (1) and (3), including the details referred to in section 66 (4).

The sampling points included in the transmitted data set must meet the requirements under section 41 and the scope and number of tests included in the transmitted data set must meet the requirements under sections 32 and 56.

(2) The competent highest *Land* authority or another body competent under *Land* legislation may determine that the details as referred to in subsection (1) are transmitted on data carriers or by other electronic means and that the data transmitted are compatible with an interface of its determination.

(3) By the end of 31 August of each year the competent highest *Land* authority or another body competent under *Land* legislation compiles a report, based on the data sets as referred to in subsection (1), for the previous calendar year on the quality of the drinking water and submits the report to the Federal Ministry of Health or a body designated by it.

(4) The Federal Ministry of Health, by agreement with the *Länder*, determines the format, modalities, minimum information together with the relevant electronic data processing requirements for the report as referred to in subsection (3). The Federal Ministry of Health

arranges for these determinations to be published online as well as in the Federal Health Gazette.

Section 70

Assessment of drinking water installations

(1) The Federal Environment Agency conducts a general assessment of the health risks stemming from drinking water installations in Germany. In particular, it draws on the data reported in accordance with section 53 (4), the report as referred to in section 69 (3) and other available information for that assessment. Where necessary, it may conduct additional surveys and tests.

(2) The assessment is to be conducted by the end of 12 June 2028 and is thereafter to be reviewed at least once every six years and, where necessary, updated. The Federal Ministry of Health is to be provided with the assessment and any updates.

Division 16

Criminal and regulatory offences

Section 71

Criminal offences

(1) Anyone who, contrary to section 22 or section 49 (1) no. 1 or 2, intentionally or negligently supplies water as drinking water or makes water available to others as drinking water is liable to punishment under section 75 (2) and (4) of the Protection Against Infection Act.

(2) Anyone who, by an intentional act as designated in section 72 (1), spreads an illness referred to in section 6 (1) sentence 1 no. 1 of the Protection Against Infection Act, a pathogen referred to in section 7 of the Protection Against Infection Act or an illness referred to in a statutory instrument within the meaning of section 15 (1) or (3) of the Protection Against Infection Act or a pathogen referred to therein is liable to punishment under section 74 (1) of the Protection Against Infection Act.

Section 72

Regulatory offences

(1) A regulatory offence within the meaning of section 73 (1a) no. 24 of the Protection Against Infection Act is deemed to be committed by anyone who, intentionally or negligently,

1. contrary to section 11 (1), (2) sentence 1, 2 or 3 or (3), section 12 sentence 1, section 47 (1), also in conjunction with section 47 (2), or contrary to section 53 (1) does not give notification, does not do so correctly, in full or in good time,
2. contrary to section 13 (1), does not correctly plan, does not correctly construct or does not correctly operate a system,
3. contrary to section 13 (3), connects a water supply system to a non-drinking water system,
4. contrary to section 13 (4), does not ensure that a pipe or a water draw-off point referred to therein is labelled or that a water draw-off point referred to therein is secured,
5. contrary to section 13 (5) sentence 1, uses a substance or object or uses a method referred to therein,
6. contrary to section 13 (5) sentence 2 or 3, does not remove a substance or object or does not do so in good time or does not discontinue using a method or does not do so in good time,
7. contrary to section 17 (1), does not remove a drinking water pipe or a section thereof or does not do so in good time and does not decommission a drinking water pipe or a section thereof or does not do so in good time,

8. contrary to section 17 (5) sentence 1, does not provide information, does not do so correctly, in full or in good time,
9. contrary to section 23 (2), does not maintain a disinfection capacity or does not do so correctly,
10. contrary to section 24 (1) sentence 1, section 28 (1), section 29 (1) sentence 1, section 31 (1), section 48 (1) sentence 1 no. 1 or (2) sentence 1 no. 1 or section 51 (1) no. 2, does not conduct a test referred to therein or does not do so in good time,
11. contrary to section 25 (1) sentence 1 or section 51 (4) sentence 1, does not make a record, does not do so correctly, in full, in the prescribed manner or in good time,
12. contrary to section 25 (3) no. 1, does not keep a record or does not do so for at least six months,
13. contrary to section 25 (3) no. 2, does not make a record available or does not do so in good time,
14. contrary to section 26 (1), does not announce the start of the use of a treatment agent or of a disinfection method or the concentration of a treatment agent in the drinking water or does not do so correctly, in full, in the manner prescribed or in good time,
15. contrary to section 27 (1) sentence 1 or 3, does not inspect a protected area or the area surrounding a water catchment system or does not do so in good time,
16. contrary to section 27 (2), does not conduct a test referred to therein or does not do so in good time,
17. contrary to section 27 (3) sentence 1, does not document a result referred to therein, does not do so correctly, in full, in the prescribed manner or in good time,
18. contrary to section 27 (3) sentence 2, does not keep documentation available or does not do so for at least 10 years,
19. contravenes an enforceable order under section 29 (1) sentence 2 or (2) sentence 1, section 32 (1) sentence 2 or (5) sentence 3 or 4, section 59 (3) half-sentence 1, section 61, section 63 (1) sentence 3, section 64 (1), section 65 (1) or (2) sentence 1 or section 67 (1),
20. contrary to section 32 (1) sentence 1 in conjunction with (3) sentence 2 or 3, (6) sentence 1 or 3 or (7) sentence 1 or 2, does not make a determination or does not do so in good time,
21. contrary to section 34 (2), does not carry out risk management or does not do so in good time or does not conduct a risk management review or does not do so in good time,
22. contrary to section 39 (1) sentence 1, conducts a test,
23. contrary to section 44 (1) sentence 1, does not make a written record of a result or does not do so in good time,
24. contrary to section 44 (2) sentence 2 half-sentence 1 or sentence 4, does not provide a copy or does not do so in good time,
25. contrary to section 44 (3) sentence 1, also in conjunction with sentence 2, does not keep the original or a copy as referred to therein or does not do so for at least 10 years,

26. contrary to section 45 (1) sentence 1, does not provide information material, does not do so correctly, in full or in good time,
27. contrary to section 45 (1) sentence 2, does not pass on information material, does not do so correctly, in full or in good time,
28. contrary to section 48 (1) sentence 1 no. 2 or section 51 (1) no. 4, does not take action or does not do so in good time,
29. contrary to section 48 (1) sentence 1 no. 3 or 4, does not notify the public health office or the competent authority, does not do so correctly, in full or in good time,
30. contrary to section 50 (1) sentence 1, does not draw up a plan of action, does not do so correctly, in full or in good time,
31. contrary to section 51 (1) no. 3, does not produce a risk assessment or does not do so in good time,
32. contrary to section 51 (3) sentence 1, does not give notification, does not do so correctly, in full or in good time,
33. contrary to section 51 (3) sentence 2, does not provide a risk assessment or does not do so in good time,
34. contrary to section 51 (4) sentence 2, does not keep available the documentation referred to therein or does not do so for at least 10 years or does not provide the documentation referred to therein or does not do so in good time,
35. contrary to section 52 (1) sentence 1 no. 1 or 4 or (3), does not inform a consumer or does not do so in good time,
36. contrary to section 52 (1) sentence 1 no. 3, does not inform a group of consumers or does not do so in good time or does not give advice or does not do so in good time or
37. contrary to section 58 (2) or (3), does not submit a document or does not do so in good time.
- (2) Competence for the prosecution and punishment of regulatory offences as referred to in subsection (1) is transferred to the Federal Railway Authority insofar as enforcement of this Ordinance is incumbent on the Federal Railway Authority pursuant to section 54b of the Protection Against Infection Act.

Annex 1

(to section 6 (2) to (4), section 28 (1) sentence 2 no. 1 (a), section 29 (1) sentence 1 and (2) sentence 1 and sentence 2 no. 2, section 47 (1) no. 3, section 56 (3) sentence 1 no. 1, section 61 no. 5 (a) and no. 6 (a) (aa), section 62 (1) sentence 1 no. 1 and section 69 (1) sentence 2 no. 3)

Microbiological parameters

Part I

General requirements for drinking water

Parameter	Limit value*
<i>Escherichia coli</i> (<i>E. coli</i>)	0/100 ml
Intestinal enterococci	0/100 ml

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Part II

Requirements for drinking water intended to be supplied in sealed containers

Parameter	Limit value*
<i>Escherichia coli</i> (<i>E. coli</i>)	0/250 ml
Intestinal enterococci	0/250 ml
<i>Pseudomonas aeruginosa</i>	0/250 ml

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Annex 2

(to section 7 (2) and (3), section 28 (1) sentence 2 no. 2 (a), section 41 (3), section 47 (1) no. 5, section 48 (5), section 55 (5) sentence 3, section 61 no. 5 (b) and no. 6 (a) (aa), section 62 (1) sentence 1 no. 1, section 65 (2) sentence 2 and (4) sentence 1, section 66 (1) and section 69 (1) sentence 2 no. 3)

Chemical parameters

Part I

Chemical parameters whose concentration does not as a rule increase in distribution network, including in drinking water installation

Parameter	Limit value (mg/l)*	Comments
Acrylamide	0.00010	The limit refers to the residual monomer concentration in the drinking water as calculated according to specifications of the maximum release of acrylamide from the corresponding polymer and the polymer dose used in the manufacture of the materials in contact with the drinking water or the use of treatment agents. Proof of compliance with the limit may also be furnished by means of drinking water testing. This does not affect the requirements for acrylamide-containing treatment agents as referred to in section 20.
Benzene	0.0010	
Boron	1.0	
Bromate	0.010	
Chromium	0.025	The limit applies until the end of 11 January 2030.
	0.0050	The limit applies as from 12 January 2030.
Cyanide	0.050	
1,2-dichloroethane	0.0030	
Fluoride	1.5	
Mercury	0.0010	
Microcystin-LR	0.0010	This parameter is only to be measured in the event of the presence of potentially toxic cyanobacteria in the source water. The limit applies as from 12 January 2026.
Nitrate	50	The sum of the amounts of nitrate concentration in mg/l divided by 50 plus nitrite concentration in mg/l divided by 3 may not exceed 1.
Pesticides	0.00010	'Pesticides' means active substances within the meaning 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 and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1), as last amended by Regulation (EU) 2021/383 of 3 March 2021 (OJ L 74, 4.3.2021, p. 7), and active substances pursuant to Article 3 (1) (c) of Regulation

		(EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products which are used in products pursuant to Article 3 (1) (a) in conjunction with Annex V of Regulation (EU) No 528/2012. They include organic insecticides, organic herbicides, organic fungicides, organic nematocides, organic acaricides, organic algicides, organic rodenticides, antifouling products, slimicides, related products (inter alia growth regulators) and their metabolites as defined in point (32) of Article 3 of Regulation (EC) No 1107/2009 which are considered relevant for drinking water. A pesticide metabolite is deemed relevant for drinking water 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 and it gives cause for concern about adverse effects on consumers' health or that either it or its transformation products give cause for concern about adverse effects on human health on account of the treatment methods used in the respective water supply system.
		Testing is only to be done in relation to those pesticides which are likely to be present in the catchment area for drinking water abstraction points concerned. The limit applies to each individual pesticide. In derogation therefrom, in the case of aldrin, dieldrin, heptachlor and heptachlor epoxide, the limit is 0.000030 mg/l.
Pesticides Total	0.00050	'Pesticides Total' means the sum of all individual pesticides detected and quantified during the respective testing. When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method and of non-relevant metabolites. All the pesticides included when calculating the totals are to be listed individually.
PFAS-20	0.00010	The totality of the following detected and quantified substances: - 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 When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method. The concentrations of perfluorinated and polyfluorinated alkyl compounds (PFAS) included when calculating the totals are to be listed individually. The limit applies as from 12 January 2026.
PFAS-4	0.000020	The totality of the following detected and quantified substances: Perfluorooctanoic acid (PFOA) Perfluorononanoic acid (PFNA) Perfluorohexane sulfonic acid (PFHxS) and Perfluorooctane sulfonic acid (PFOS) When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method. The concentrations of the PFAS included when calculating the totals are to be listed individually. The limit applies as from 12 January 2028.
Selenium	0.010	
Tetrachloroethene and trichloroethene	0.010	The sum of the detected and quantified individual substances. When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method.
Uranium	0.010	

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Part II

Chemical parameters whose concentrations may increase in distribution network, including in drinking water installation

Parameter	Limit value (mg/l)*	Comments
Antimony	0.0050	
Arsenic	0.010	The limit applies until the end of 11 January 2028. In the case of water supply systems taken into operation before 12 January 2028, the limit applies until the end of 11 January 2036.
	0.0040	The limit applies to all water supply systems as from 12 January 2036. In the case of water systems taken into operation as from 12 January 2028, the limit applies as from 12 January 2028.
Benzo(a)pyrene	0.000010	
Bisphenol A	0.0025	The limit applies as from 12 January 2024.
Cadmium	0.0030	
Chlorate	0.070	Testing may as a rule be dispensed with where a disinfection method used during water abstraction, water treatment and water distribution does not involve the use

		of chlorate-forming treatment agents. A limit of 0.20 mg/l applies to temporary dosing. When disinfecting with chlorine dioxide, the limit for temporary dosing is deemed to be complied with if no more than 0.20 mg/l chlorine dioxide is added. Where an increased dose of sodium hypochlorite or calcium hypochlorite is necessary for hazard prevention purposes, the measured chlorate concentration may briefly be 0.70 mg/l. If the option of testing ex water treatment plant or in the distribution network is used in accordance with section 41 (3), the reference value for chlorate is 0.020 mg/l.
Chlorite	0.20	Testing may as a rule be dispensed with where a disinfection method does not involve the use of chloride dioxide. The limit is deemed to be complied with if no more than 0.20 mg/l chlorine dioxide is added. Where use is made of the possibility of testing ex water treatment plant or in the distribution network in accordance with section 41 (3), the reference value for chlorite is 0.060 mg/l.
Copper	2.0	The limit is deemed to be exceeded if the measured value during graduated stagnation testing of one of the three samples (S0, S1 or S2) or of a random sample exceeds the limit.
Epichlorohydrin	0.00010	The limit refers to the residual monomer concentration in the drinking water as calculated according to specifications for the maximum release of epichlorohydrin from the corresponding polymer and the polymer dose applied in the manufacture of materials in contact with the drinking water. Proof of compliance with the limit may also be furnished by means of drinking water testing.
Haloacetic acids (HAA5)	0.060	The sum of the following detected and quantified reaction products in the drinking water at the consumer's drinking water draw-off point which arise during disinfection or oxidation: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, and monobromacetic and dibromacetic acid. When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method. The concentrations of HHA5 used when calculating the totals are to be listed individually.
		Testing may as a rule be dispensed with where a disinfection method used during water abstraction, water treatment and water distribution does not involve the use of HHA5-forming treatment agents. Where use is made of the possibility of testing ex water treatment plant or in the distribution network in accordance with section 41 (3), the reference value for HHA5 is 0.010 mg/l. The limit applies as from 12 January 2026.
Lead	0.010	The limit applies until the end of 11 January 2028. It is deemed to be exceeded if the measured value during

		graduated stagnation testing of one of the three samples (S0, S1 or S2) or a random sample exceeds the limit.
	0.0050	The limit applies as from 12 January 2028. It is deemed to be exceeded if the measured value during graduated stagnation testing of one of the three samples (S0, S1 or S2) or of a random sample exceeds the limit.
Nickel	0.020	The limit is deemed to be exceeded if the measured value during graduated stagnation testing of one of the three samples (S0, S1 or S2) or a random sample exceeds the limit.
Nitrite	0.50	The sum of the amounts of nitrate concentration in mg/l divided by 50 plus nitrite concentration in mg/l divided by 3 may not exceed 1. The measured value for nitrite ex water treatment plant may not exceed 0.10 mg/l.
Polycyclic aromatic hydrocarbons	0.00010	The sum of concentrations of the following detected and quantified substances: benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene. When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method.
Trihalomethanes (THMs)	0.050	The sum of the following reaction products in the drinking water detected and quantified at the consumer's drinking water draw-off point which arise during disinfection or oxidation of the water: chloroform, bromodichloromethane, dibromochloromethane and bromoform. When calculating totals, no account is taken of the measured values for each individual substance below the limit of quantification for the respective testing method. Concentrations of THMs used to calculate totals are to be indicated separately. The public health office may permit temporary higher concentrations at the drinking water draw-off point in the drinking water installation of up to 0.10 mg/l if higher concentrations of THM-forming disinfection methods are necessary for hazard prevention purposes. Testing may as a rule be dispensed with where a disinfection method used during water abstraction, water treatment and water distribution does not involve the use of THM-forming treatment agents. Where use is made of the possibility of testing ex water treatment plant or in the distribution network in accordance with section 41 (3), the reference value for THMs is 0.010 mg/l.
Vinyl chloride	0.00050	The limit refers to the residual monomer concentration in the drinking water as calculated according to specifications of the maximum release of vinyl chloride and the polymer dose applied when manufacturing materials in contact with the drinking water. Proof of compliance with the limit may also be furnished by means of drinking water testing.

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Annex 3

(Part I to section 8 (1) sentence 1 and (2), section 28 (1) sentence 2 no. 3, section 29 (1) sentence 1 and (2) sentence 2 no. 2, section 47 (1) no. 7, section 49 (1) no. 3, section 61 no. 6 (a) (bb), section 62 (1) no. 3 and (2) and section 65 (3) sentence 1; Part II to section 39 (4) no. 2, section 51 (1), section 53 (1) and section 68 (1); Part III to section 36 (2) sentence 1)
Indicator parameters

Part I

General indicator parameters

Parameter	Unit	Limit value/ requirement*	Comments
Aluminium	mg/l	0.200	
Ammonium	mg/l	0.50	
Calcite dissolution capacity	mg/l CaCO ₃	5	The requirement applies to centralised water supply systems and to decentralised water supply systems. The requirement is deemed to be met where the hydrogen ion concentration ex water treatment plant $\geq$ pH 7.7. Beyond the point at which drinking water from two or more water treatment plants is mixed, the calcite dissolution capacity in the distribution network may not exceed 10 mg/l.
Chloride	mg/l	250	
<i>Clostridium perfringens</i> , including spores	number/100 ml	0	This parameter need only be measured if the raw water originates from surface water or is influenced by surface water.
Coliform bacteria	number/100 ml	0	The limit is 0/250 ml for drinking water intended to be supplied in sealed containers.
Colony count at 22 °C		No abnormal change	The limit is 100/ml for drinking water intended to be supplied in sealed containers. When applying the testing method as referred to in section 43 (3), the following limits apply: 100/ml at the consumer's drinking water draw-off point; 20/ml directly after conclusion of treatment in the disinfected drinking water; 1 000/ml in the case of individual water supply systems and water tanks in mobile water supply systems.
Colony count at 36 °C		No abnormal change	The limit is 20/ml for drinking water intended to be supplied in sealed containers. The limit is 100/ml when applying the testing method as referred to in section 43 (3).
Colour	m ⁻¹	0.5	Determination of the spectral absorption coefficient with

			spectrophotometer or filter photometer at a wavelength of 436 nm (mercury line).
Electrical conductivity	µS/cm	2 790 at 25 °C	Measurements may be taken at other temperatures. The measured value is to be converted to the reference temperature of 25 °C in accordance with the generally recognised codes of practice and standards.
Hydrogen ion concentration	pH units	≥ 6.5 and ≤ 9.5	
Iron	mg/l	0.200	
Manganese	mg/l	0.050	
Odour		Acceptable to consumers and no abnormal change	
Oxidisability	mg/l O ₂	5.0	This parameter need not be measured where the parameter TOC is analysed.
Sodium	mg/l	200	
Sulphate	mg/l	250	
Taste		Acceptable to consumers and no abnormal change	Sampling may be dispensed with where microbial contamination is suspected.
Total organic carbon (TOC)		No abnormal change	
Turbidity	Nephelometric turbidity units (NTUs)	1.0	The limit is deemed to be complied with if the limit is not exceeded ex water treatment plant.

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Part II

Special indicator parameter in relation to drinking water installations

Parameter	Technical action value*
<i>Legionella spec.</i>	100/100 ml

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Part III

Special indicator parameter in relation to presence of specific microbial risks

Parameter	Reference value*
Somatic coliphages	In raw water: 50 plaque-forming units (PFUs) per 100 ml

* The values specified take into account the uncertainty of measurement of the testing and sampling methods.

Annex 4

(to section 9 sentence 2, section 32 (1) sentences 1 to 3, (4) sentence 4, (5) sentence 3, (6) sentence 1 and (8), section 33, section 39 (4) no. 3, section 43 (7) sentence 2, section 47 (1) no. 8, section 62 (3) and section 69 (1) sentence 2 no. 3)
Requirements for drinking water in respect of radioactive substances

Part I

Parametric values for radon-222, tritium and reference dose

Parameter	Unit	Parametric value
Radon-222	Bq/l	100
Tritium	Bq/l	100
Reference dose	mSv/a	0.10

Part II

Calculation of reference dose

'Reference dose' means the committed effective dose for drinking water intake over the course of a year resulting from all natural and artificial radionuclides (excluding tritium, radon-222, potassium-40 and short-lived radon decay products) detected in the drinking water.

The reference dose is calculated by multiplying the following three factors together: the measured radionuclide concentrations; the dose coefficients as published in Federal Gazette No. 160 a and b of 28 August 2001 Part II; and an assumed annual intake of 730 litres of drinking water. Account is always to be taken of the radionuclides listed in the following table. No account is taken of the activity concentrations of potassium-40, tritium, radon-222 and short-lived radon decay products. Where information is available to suggest that other radionuclides may be present in the drinking water whose dose contribution may lead to an exceedance of the reference dose, these are also to be taken into account.

In lieu of calculating the reference dose, the competent authority may regard proof to have been furnished that the parametric value for the reference dose is not exceeded if the sum of the ratios resulting from the measured radionuclide concentrations and the reference activity concentrations cited in the table is less than or equal to 1:

$$\sum_{i=1}^n \frac{C_{i(\text{mess})}}{C_{i(\text{ref})}} \leq 1$$

The following applies:

$C_{i(\text{mess})}$ = measured activity concentration of radionuclide i

$C_{i(\text{ref})}$ = reference activity concentration of radionuclide i

n = number of detected radionuclides

Reference activity concentrations for radioactive substances in drinking water

Radionuclide	Reference activity concentration (see Note)
Natural radionuclides	
Lead-210	0.2 Bq/l
Polonium-210	0.1 Bq/l
Radium-226	0.5 Bq/l
Radium-228	0.2 Bq/l
Uranium-234	2.8 Bq/l
Uranium-238	3.0 Bq/l
Artificial radionuclides	
Americium-241	0.7 Bq/l
Caesium-134	7.2 Bq/l
Caesium-137	11 Bq/l
Carbon-14	240 Bq/l
Cobalt-60	40 Bq/l
Iodine-131	6.2 Bq/l
Plutonium-239/Plutonium-240	0.6 Bq/l
Strontium-90	4.9 Bq/l

Note: The above table lists the reference activity concentrations calculated for the most frequent natural and artificial radionuclides. The values are precise and were calculated for a dose of 0.1 mSv and on the aforementioned bases and assumptions. The reference activity concentrations for other radionuclides can be calculated in the same manner.

Part III

Assessment of reference dose

The reference dose may be measured and assessed using various methods: a screening method as set out in no. 1 or no. 2 with measurement of the total alpha activity concentration ($C_{\text{alpha-ges}}$) and individual nuclide analysis as set out in no. 3. If it is not possible, applying screening method no. 1 or no. 2, to furnish proof that the parametric value for the reference dose is being complied with, individual nuclide analyses as referred to in no. 3 are necessary to assess the reference dose.

1. Screening method using a test value for $C_{\text{alpha-ges}} \leq 0.1 \text{ Bq/l}$

The total alpha activity concentration and the activity concentration of lead-210 and radium-228 are measured, averaged across four different quarters.

The reference activity concentrations of lead-210 and radium-228 are set out in Part II.

Provision is made for a test value of 0.1 Bq/l for the total alpha activity concentration:

$$\frac{C_{\text{alpha-ges (mess)}}}{0,1 \text{ Bq/l}} + \frac{C_{\text{Ra-228 (mess)}}}{0,2 \text{ Bq/l}} + \frac{C_{\text{Pb-210 (mess)}}}{0,2 \text{ Bq/l}} \leq 1$$

The following applies:

$C_{\text{alpha-ges (mess)}}$ = measured total alpha activity concentration

$C_{\text{Ra-228 (mess)}}$ = measured radium-228 activity concentration

$C_{\text{Pb-210 (mess)}}$ = measured lead-210 activity concentration

2. Screening method using a test value for $C_{\text{alpha-ges}} \leq 0.05 \text{ Bq/l}$

The parametric value for the reference dose is likewise deemed to be complied with without further nuclide-specific testing if the total alpha activity concentration is equal to or less than 0.05 Bq/l.

Where the competent authority has ordered artificial radionuclide testing, the following condition must be met when assessing the residual beta activity concentration:

$$C_{\text{beta-rest}} \leq 1.0 \text{ Bq/l}$$

The following applies:

$C_{\text{beta-rest}}$ = total beta activity concentration minus potassium-40 activity concentration

Measuring the total alpha and total beta activity concentration may be dispensed with if an individual nuclide analysis as referred to in no. 3 is done directly.

3. Individual nuclide analysis

The activity concentrations of the individual nuclides are measured and the reference dose is calculated as described in Part II.

Annex 5

(to section 24 (1) and (3))

Operational parameter turbidity

Part I

Reference values for operational parameter turbidity

Operational parameter	Reference value
Turbidity	In the filtrate: a) 0.3 nephelometric turbidity units (NTUs) in 95 per cent of the samples and

	b) the measured value of 1.0 nephelometric turbidity units (NTUs) may not be exceeded in any sample
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Part II

Frequency of testing for operational parameter turbidity

Volume of water distributed or produced per day within a water supply zone (in cubic metres per day)	Frequency of testing
< 1 000	Weekly
≥ 1 000 to ≤ 10 000	Daily
> 10 000	Continuously

Annex 6

(to section 28 (1) sentence 3 and (3) sentences 1 and 2, section 32 (7) sentence 2 and section 56 (3) sentence 1 no. 2)

Frequency of testing

Part I

Scope and frequency of drinking water testing in water supply zone

Volume of water distributed or produced per day within a water supply zone (in cubic metres per day) (see Note 1)	Group A parameters (see Note 2) Number of tests per year (see Notes 3 and 4)	Group B parameters (see Note 2) Number of tests (see Note 4)
< 10	1	1 every three years
≥ 10 to ≤ 1 000	4	1 per year
> 1 000 to ≤ 10 000	4 for the first 1 000 cubic metres per day + 3 for each additional 1 000 cubic metres per day (remaining parts thereof are rounded up to 1 000 cubic metres)	1 per year for the first 1 000 cubic metres per day + 1 for each additional 4 500 cubic metres per day (remaining parts thereof are rounded up to 4 500 cubic metres)
> 10 000 to ≤ 100 000		3 per year for the first 10 000 cubic metres per day + 1 for each additional 10 000 cubic metres per day (remaining parts thereof are rounded up to 10 000 cubic metres)
> 100 000		12 per year for the first 100 000 cubic metres per day + 1 for each additional 25 000 cubic metres per day (remaining parts thereof are rounded up to 25 000 cubic metres)

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

Note 2: Group A parameters

- Coliform bacteria
- Colony count at 22 °C
- Colony count at 36 °C

- Colour
- Electrical conductivity
- *Escherichia coli* (*E. coli*)
- Hydrogen ion concentration
- Intestinal enterococci
- Odour
- Taste
- Turbidity

The following parameters are added to the Group A parameters under the specific conditions specified:

- Aluminium if it is added as a treatment agent
- *Clostridium perfringens*, including spores, if the raw water originates from surface water or is influenced by surface water,
- Iron if it is added as a treatment agent,
- *Pseudomonas aeruginosa* in the case of drinking water intended to be filled into closable containers for use as a temporary replacement for a piped water supply.

Group B parameters

Group B parameters are all the parameters which are to be tested in accordance with section 28 (1) in conjunction with Annexes 1 to 3 Part I, unless they are already to be tested as Group A parameters.

Note 3: The frequency indicated applies to drinking water intended for use as a temporary alternative to a piped water supply. In derogation therefrom, in the case of temporary, short-term water supply using vehicles transporting water, the water in the vehicles is to be tested every 48 hours if the tank concerned has not been cleaned or refilled during that period.

Note 4: The frequency indicated is calculated as follows: e.g. 4 300 m³/day = 16 samples per year for Group A parameters (4 for the first 1 000 m³/day + 4 x 3 for the additional 3 300 m³/day). Two samples are to be taken for Group B parameters (1 for the first 1 000 m³/day + 1 for the additional 3 300 m³/day).

Part II

Frequency of testing in relation to radioactive substances

Volume of water distributed or produced per day within a water supply zone (in cubic metres per day) (see Note)	Number of tests per year
Volume ≤ 1 000	1
1 000 < volume ≤ 10 000	1 for the first 1 000 cubic metres per day + 1 for each additional 3 300 cubic metres per day (remaining parts thereof are rounded up to 3 300 cubic metres)
10 000 < volume ≤ 100 000	3 for the first 10 000 cubic metres per day + 1 for each additional 10 000 cubic metres per day (remaining parts thereof are rounded up to 10 000 cubic metres)
Volume > 100 000	10 for the first 100 000 cubic metres per day

	+ 1 for each additional 25 000 cubic metres per day (remaining parts thereof are rounded up to 25 000 cubic metres)
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Note: The volumes are calculated as averages over a calendar year. Instead of the volume of distributed or produced water, the competent authority may also use the number of inhabitants of a supply zone to calculate the minimum frequency, applying a daily per-capital water consumption of 200 litres.

Annex 7
(to section 32 (8), section 43 (6) sentences 1 and 3 and (7) sentence 1)
Specifications for parameter testing

Part I

Chemical and indicator parameters for which performance characteristics have been specified

The performance characteristics listed in the table below are to be used to guarantee, in relation to the listed parameters, that the testing method used is at least suitable for measuring concentrations corresponding to the parameter's limit with the uncertainty of measurement specified in the following table. The associated limit of quantification is defined in no. 2 of Article 2 of Commission Directive 2009/90/EC* and, as a criterion, is 30 per cent or less of the limit concerned.

The test result is to be cited to at least the same number of significant digits as the respective limit in Annex 2 Part I, Part II or Annex 3 Part I.

The uncertainty of measurement (in per cent) is a non-negative parameter which describes the distribution of those values which are assigned to the measured value based on the information used. The performance characteristic of the uncertainty of measurement ($k = 2$) is the percentage of the limit in the table or better. Unless stated otherwise, the uncertainty of measurement is estimated at the limit value level.

Parameter (see Note)	Uncertainty of measurement (percentage of limit value)	Comments
Acrylamide	30	In cases where acrylamide is measured in the drinking water and not calculated on the basis of product specifications.
Aluminium	25	
Ammonium	40	
Antimony	40	
Arsenic	30	
Benzo(a)pyrene	50	
Benzene	40	
Bisphenol A	50	
Boron	25	
Bromate	40	
Cadmium	25	
Chlorate	40	
Chloride	15	
Chlorite	40	
Chromium	30	Limit of quantification: 0.00050 mg/l
Copper	25	
Cyanide	30	The method should be able to determine the total cyanide content in all forms.
1,2-dichlorethane	40	
Electrical	20	

conductivity		
Epichlorohydrin	30	In cases where epichlorohydrin is measured in the drinking water and not calculated on the basis of product specifications.
Fluoride	20	
Haloacetic acids (HAA5)	50	Applies to each individual substance at 20 per cent (= 1/5, i.e. 0.012 mg/l) of the total limit for five compounds. A limit of quantification of 0.0036 mg/l or less for each individual substance is necessary to calculate a meaningful total.
Hydrogen ion concentration	0.2	The values for the uncertainty of measurement are expressed in pH units.
Iron	30	
Lead	25	
Manganese	30	
Mercury	30	
Microcystin-LR	30	
Nickel	25	
Nitrate	15	
Nitrite	20	
Oxidisability	50	
Pesticides	30	The performance characteristics of each individual pesticide are indicative. Uncertainties of measurement of only 30 per cent of the limit set in Annex 2 Part I may be attained for several pesticides and higher values of up to 80 per cent of the limit set in Annex 2 Part I may be allowed for a number of pesticides.
Polycyclic aromatic hydrocarbons	50	The performance characteristics apply to individual specified polycyclic hydrocarbons at 25 per cent of the limit set in Annex 2 Part II.
Selenium	40	
Sodium	15	
Sulphate	15	
Tetrachloroethene	30	The performance characteristics apply to tetrachloroethene specified at 50 per cent of the limit set in Annex 2 Part I.
Total organic carbon (TOC)	30	The uncertainty of measurement of TOC should be determined at a concentration of 3 mg/l in accordance with the generally recognised codes of practice and standards.
PFAS-20	50	Applies to each individual substance at 5 per cent (= 1/20, i.e. 0.0000050 mg/l) of the total limit for 20 compounds. A limit of quantification of 0.0000015 mg/l or less for each individual substance is necessary to calculate a meaningful total.
PFAS-4	50	Applies to each individual substance at 25 per cent (= 1/4, i.e. 0.0000050 mg/l) of the total limit for four compounds. A limit of quantification of 0.0000015 mg/l or less for each individual substance is necessary to calculate a meaningful total.

Trichloroethene	40	The performance characteristics apply to trichloroethene at 50 per cent of the limit set in Annex 2 Part I.
Trihalomethanes (THMs)	40	The performance characteristics apply to individual specified THMs at 25 per cent of the limit set in Annex 2 Part II.
Turbidity	30	The uncertainty of measurement should be estimated at the level of 1.0 nephelometric turbidity unit (NTU) in conformity with the generally recognised codes of practice and standards.
Uranium	30	
Vinyl chloride	50	In cases where vinyl chloride is measured in the drinking water and not calculated on the basis of product specifications.

Note: No performance characteristics are specified for the parameters colour, odour and taste.

* 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).

Part II

Performance characteristics for testing in relation to radioactive substances

Parameters, total activity concentrations and radionuclides	Detection limit (see Notes 1 and 2)
Americium-241	0.06 Bq/l
Caesium-134	0.5 Bq/l
Caesium-137	0.5 Bq/l
Carbon-14	20 Bq/l
Cobalt-60	0.5 Bq/l
Iodine-131	0.5 Bq/l
Lead-210	0.02 Bq/l
Plutonium-239/Plutonium-240	0.04 Bq/l
Polonium-210	0.01 Bq/l
Radium-226	0.04 Bq/l
Radium-228	0.02 Bq/l (see Note 4)
Radon-222	10 Bq/l
Strontium-90	0.4 Bq/l
Total alpha activity concentration	0.04 Bq/l (see Note 3)
Total beta activity concentration	0.4 Bq/l
Tritium	10 Bq/l
Uranium-234	0.02 Bq/l
Uranium-238	0.02 Bq/l

Note 1: The detection limit is to be calculated on the basis of DIN EN ISO 11929-1-3 'Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation – Fundamentals and application' with a probability of type 1 or type 1 errors of 5 per cent in each case.

Note 2: Uncertainties of measurement are to be calculated and documented. The confidence interval may also be stated as determined on the basis of a probability $1 - \gamma$ of 95 per cent.

Note 3: This detection limit only applies when using a test value of 0.1 Bq/l, taking account of the activity concentrations of lead-210 and radium-228. Where the test value of 0.05 Bq/l is

applied without any further nuclide-specific testing, when account is only to be taken of natural radionuclides, the detection limit is 0.025 Bq/l.

Note 4: This detection limit only applies to initial testing in relation to the reference dose for a new water source. If the initial testing reveals no plausible reason to assume that radium-228 exceeds 20 per cent of the derived concentration, a testing method with a detection limit of up to 0.08 Bq/l can be applied for radium-228 during regular testing.