Republic of Latvia

Cabinet
Regulation No. 63
Adopted 23 February 1999

Mandatory Harmlessness Requirements for Drinking Water

Issued pursuant to Section 4, Paragraph two of the
Law on the Supervision of the Handling of Food

1. These Regulations determine the mandatory harmlessness requirements for drinking water.

2. Drinking water is surface or ground-water that either in its original state or after special treatment is intended for human consumption, food preparation, or utilisation in the food industry or trade, regardless of the manner of supply (from water supply networks or in containers) and conforms to the standards prescribed in these Regulations.

3. These Regulations do not apply to:
3.1. natural table mineral waters and medicinal waters recognised as such by authorised competent authorities; and
3.2. drinking water from separate points of origin or supply which is utilised by not more than 50 persons and the amount of the supply of which does not exceed 10 m^3 per 24 hours, unless it is supplied commercially.

4. If, in determining the microbiological parameters of drinking water (Annex 1), *Escherichia coli*, enterococci or coliform bacteria are found in a sample of water, a repeat examination of the water shall be carried out without delay. If the number of coliform bacteria in the repeat sample of water exceeds 2/100 ml, or *Escherichia coli* or enterococci are found, it shall be determined whether there are pathogenic enterobacteria in the water.

5. Drinking water shall not contain micro-organisms (except the micro-organisms referred to in Annex 1 to these Regulations), parasites and admixtures in such amount (number or concentration) as creates a threat to the health of consumers.

6. If there is cause for suspicion of the possible presence in drinking water of pathogenic micro-organisms and toxic substances not referred to in these Regulations in such amounts (number or concentration) as create a threat to the health of consumers, the producer shall ensure that examination of the drinking water takes place without delay.

7. If drinking water, while being treated, is also disinfected, the producer shall monitor the effectiveness of the disinfection (Sub-paragraphs 3.3, 3.4 and 3.5 of Annex 1).

8. If the harmlessness parameters of drinking water do not comply with the requirements set out in Paragraph 3 of Annex 1 of these Regulations, the producer shall take remedial action in order to restore the harmlessness of the water and prevent any threat to the health of consumers.

9. If drinking water in the relevant geographic area does not comply with the requirements of these Regulations but does not create a threat to the health of consumers, and a supply of water cannot be provided by other reasonable means, the Minister for Welfare, upon co-ordination with the Food Council, may determine reduced requirements for the drinking water – particular harmlessness standards – for a

period not exceeding three years. If necessary, the application of the said standards may be extended for a further period not exceeding three years.

10. In determining particular harmlessness standards regarding drinking water in accordance with Paragraph 9 of these Regulations, the following shall be set out:

10.1. the basis thereof;

10.2. the parameters to which the particular harmlessness standards are being applied, and the maximum permissible values for the relevant parameters;

10.3. the area in which the particular harmlessness standards are applicable;

10.4. the amount of drinking water supplied within a twenty-four hour period;

10.5. the applicable supervision and monitoring scheme;

10.6. possible effects on food production; and

10.7. the time period for which the particular harmlessness standards being determined are applicable.

11. The authorities carrying out State supervision and monitoring, as well as the competent authorities authorised by the Cabinet, shall formulate monitoring and supervision programmes in order to ensure monitoring of drinking water, in compliance with the harmlessness parameters, values, methods, and procedures prescribed in Annex 1, Paragraph 3, and Annexes 2 and 3 of these Regulations. The audit monitoring of drinking water shall be carried out in compliance with the parameters set out in Annex 1 of these Regulations as are not referred to in Paragraph 1 of Annex 2.

12. It is provided that until the year 2015 in water that is not put into containers:

12.1. the content of bromates (Sub-paragraph 2.7 of Annex 1) shall not exceed 25 mg/l;

12.2. the overall content of trihalomethanes (Sub-paragraph 2.24 of Annex 1) shall not exceed 150 mg/l;

12.3. the content of aluminium (Sub-paragraph 3.1 of Annex 1) shall not exceed 0.5 mg/l;

12.4. the content of iron (Sub-paragraph 3.7. of Annex 1) shall not exceed 0.4 mg/l;

12.5. the content of manganese (Sub-paragraph 3.11 of Annex 1) shall not exceed 0.2 mg/l; and

12.6. oxidisability ($KMnO_4$) (Sub-paragraph 3.13 of Annex 1) shall not exceed 8 mg O_2/l.

Prime Minister V. Krištopans

Minister for Welfare V. Makarovs

Annex 1
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Harmlessness Parameters of Drinking Water and their Values

1. Microbiological Parameters

No. in sequence	Parameter	Maximum Permissible Value
1.1.	for tap water:	
1.1.1.	*Escherichia coli*	0/100 ml
1.1.2.	enterococci	0/100 ml
1.2.	for water put into bottles or containers:	
1.2.1.	*Escherichia coli*	0/250 ml
1.2.2.	enterococci	0/250 ml
1.2.3.	*Pseudomonas aeruginosa*	0/250 ml
1.2.4.	colony count 22 °C	100/ml
1.2.5	colony count 37 °C	20/ml

2. Chemical Parameters

No. in sequence	Parameter	Maximum Permissible Value
2.1.	acrylamide	0.1 µg/l
2.2.	antimony	5.0 µg/l
2.3.	arsenic	10.0 µg/l
2.4.	benzene	1.0 µg/l
2.5.	benzo(a)pyrene	0.01 µg/l
2.6.	boron	1.0 mg/l
2.7.	bromates	10.0 µg/l
2.8.	cyanides	50.0 µg/l
2.9.	1,2-dichloroethane	3.0 µg/l
2.10.	mercury	1.0 µg/l
2.11.	epichlorohydrin	0.1 µg/l
2.12.	fluorides	1.5 mg/l
2.13.	chromium	50.0 µg/l
2.14.	cadmium	5.0 µg/l
2.15.	nickel	20.0 µg/l
2.16.	nitrates	50.0 mg/l
2.17.	nitrites	0.5 mg/l
2.18.	pesticides (total)	0.5 µg/l
2.19.	pesticides (separately)	0.1 µg/l
2.20.	polycyclic aromatic hydrocarbons (total)	0.1 µg/l
2.21.	selenium	10.0 µg/l
2.22.	lead	10.0 µg/l
2.23.	tetrachloroethene and trichloroethene (total)	10.0 µg/l
2.24.	trihalomethanes (total)	100.0 µg/l
2.25.	copper	2.0 mg/l
2.26.	vinyl chloride	0.5 µg/l

Notes:

1. Acrylamide (2.1) and epichlorohydrin (2.11) shall be determined as the monomer content in water.

2. The average values of nickel (2.15), lead (2.22) and copper (2.25) shall be determined from samples of the water supply over a one-week period. The maximum readings in regard to parameters and the harmlessness in relation thereto shall also be recorded.

3. The content of nitrites in drinking water shall not exceed 0.10 mg/l if

$$\frac{\text{nitrites (mg/l)}}{50} + \frac{\text{nitrites (mg/l)}}{3} = < 1.$$

4. The following plant protection agents shall be treated as a group of pesticides (2.18 and 2.19):
4.1. organic insecticides;
4.2. organic herbicides;
4.3. organic fungicides;
4.4. organic nematocides;
4.5. organic acaricides;
4.6. organic algicides;
4.7. organic rodenticides;
4.8. organic slimicides; and
4.9. related products (growth regulators) and metabolites, and degradation products of such substances.

5. For water, only those pesticides shall be determined which are likely to be present in the water.

6. Pesticides (2.18) are the sum of all individual pesticides.

7. The parametric value referred to in Sub-paragraph 2.19 of the Annex applies to each individual pesticide. If the presence of aldrin, dieldrin, heptachlor or heptachlor epoxide is detected in drinking water, the parametric value shall be 0.030 µg/l.

8. Polycyclic aromatic hydrocarbons (2.20) are as follows:
8.1. benzo(b)fluoranthrene;
8.2. benzo(k)fluoranthrene;
8.3. benzo(ghi)perylene; and
8.4. indeno(1,2,3-cd)pyrene.

3. Monitoring parameters

No. in sequence	Parameter	Maximum Permissible Value
3.1.	aluminium	200.0 µg/l
3.2.	ammonium	0.5 mg/l
3.3.	colony count 22 °C	100/ml (in water put into containers)
3.4.	coliform bacteria (number)	0/100 ml
3.5.	*Clostridium perfringens* (including spores)	0/100 ml
3.6.	turbidity	no substantial changes
3.7.	iron	200.0 µg/l
3.8.	taste	no significant changes
3.9.	chlorides	250.0 mg/l
3.10.	colour	no significant changes

3.11.	manganese	50.0 µg/l
3.12.	sodium	200.0 mg/l
3.13.	oxidisability ($KMnO_4$)	5.0 mg O_2/l
3.14.	odour	no significant changes
3.15.	sulphates	250.0 mg/l
3.16.	hydrogen ion concentration (pH)	6.5-9.5
3.17.	conductivity	2 500.0 µS cm^{-1} at 20 °C

Notes:

1. For water put into bottles and containers, the unit for coliform bacteria (3.4) shall be number/250 ml.

2. *Clostridium perfringens* (3.5) and the number of its spores shall only be determined if the water originates from surface sources or it is affected by surface water.*Clostridium perfringens* (3.5), including spores, shall be determined for evaluation of the effectiveness of technological treatment of the water.

3. The parametric value of turbidity (3.6) of water prepared for human consumption shall not exceed 1.0 nephelometric turbidity units.

4. Water shall not be corrosive (3.9, 3.15, 3.16, 3.17).

5. The parametric value of hydrogen ion concentration (3.16) for water put into bottles and containers shall not be lower than 4.5. If the content of carbon dioxide of water put into containers is elevated, the pH value may be lower.

Minister for Welfare V. Makarovs

Annex 2
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Parameters for Regular Monitoring and Sampling Procedures

1. Parameters to be determined during regular monitoring

No. in sequence	Parameter	Remarks
1.1.	aluminium	when used as a flocculant
1.2.	ammonium	
1.3.	*Clostridium perfringens,* including spores	determined for surface water or water that may be affected by surface water
1.4.	iron	when used as a flocculant
1.5.	turbidity	
1.6.	*Escherichia coli*	
1.7.	taste	
1.8.	colony count 22 °C and 37 °C	only for water put into bottles or containers
1.9.	colour	
1.10.	nitrites	for chlorinated water
1.11.	*Pseudomonas aeruginosa*	only for water put into bottles or containers
1.12.	odour	
1.13.	conductivity	
1.14.	coliform bacteria	
1.15	hydrogen ion concentration (pH)	6.5-9.5

2. Minimum frequency of sampling and analyses

No. in sequence	Average amount of water (m^3) per 24-hour period supplied/filled during the year	Number of regular monitoring samples (per year)	Number of audit monitoring samples (per year)
1	2	3	4
2.1.	for tap water:		
2.1.1.	not more than 100	to be determined by competent authorities authorised by the State	to be determined by competent authorities
2.1.2.	100-1 000	4	1
2.1.3.	1 000-10 000	4, as well as three samples for each 1 000 m^3/day in proportion to its part of the total volume	1, as well as one sample for each 3 300 m^3/day in proportion to its part of the total volume
2.1.4.	10 000-100 000	4, as well as three samples for each 1 000 m^3/day in proportion to its part of the total volume	3, as well as one sample for each 10 000 m^3/day in proportion to its part of the total volume
2.1.5.	more than 100 000	4, as well as three samples for each 1 000 m^3/day in	10,as well as one sample for each 25 000 m^3/day in

		proportion to its part of the total volume	proportion to its part of the total volume
2.2.	for water put into bottles or containers:		
2.2.1.	not more than 10	1	1
2.2.2.	10-60	12	1
2.2.3.	more than 60	one sample for each 5 m^3 in proportion to its part of the total volume	one sample for each 100 m^3 in proportion to its part of the total volume

Notes:

1. If water is distributed to consumers from tankers, samples shall be taken at the point at which the water emerges from the tanker.

2. Samples of water put into bottles or containers shall be taken before the filling of the water.

3. The frequency of analyses, in order to determine the compliance of drinking water to the harmlessness parameters of drinking water determined in Annex 1 of these Regulations, may be reduced if a permit therefor is obtained from an authorised competent auhority and the results over at least two successive years have been stable and better than prescribed in Annex 1. The frequency of analyses may not be reduced by more than 50 per cent.

4. Samples shall be taken regularly in order that the results of analyses be characteristic of the average annual parametric values determined for the water.

Minister for Welfare V. Makarovs

Annex 3
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Methods for Determining Water Harmlessness Parameters

1. Parameters for which determination methods are regulated

No. in sequence	Parameter	Method
1.1.	coliform bacteria and *Escherichia coli*	ISO 9 308-1
1.2.	enterococci	ISO 7 899-2
1.3.	*Pseudomonas aeruginosa*	prEN ISO 12 780
1.4.	colony count 22 °C	prEN ISO 6 222
1.5.	colony count 37 °C	prEN ISO 6 222
1.6.	*Clostridium perfringens,* including spores	Incubation in anaerobic environment on m-CP agar membrane at 44±1 °C for 21±3 hours with subsequent membrane filtration. Count the opaque yellow colonies that turn pink or red after exposure to ammonium hydroxide vapours for 20 to 30 seconds.
	Notes: 1. Composition and preparation of m-CP agar (1.6.). Basal medium: tryptose 30.0 g yeast extract 20.0 g sucrose 5.0 g L-cysteine hydrochloride 1.0 g $MgSO_4$* $7H_2O$ 0.1 g bromocresol purple 40.0 mg agar 15.0 g water 1 000 ml 2. Dissolve all the ingredients of the basal medium, adjust the pH to 7.6 and autoclave at 121 °C for 15 minutes, allow the medium to cool and add: D-cycloserine 400 mg polymyxine-B sulphate 25 mg indoxyl-alpha-D-glucoside 60 mg which is dissolved in 8 ml sterile water filter– sterilised 0.5% phenolphthalein diphosphate solution 20 ml filter – sterilised 4.5% $FeCl_3 \cdot 6H_2O$ solution 2 ml	

2. Parameters for which the methods of analysis are not specified:

2.1. colour;
2.2. odour;
2.3. taste; and
2.4. turbidity.

Note.

When determining turbidity in samples of treated surface water, the method of analysis used must be capable of measuring the parameter values indicated with a trueness of 25%, a precision of 25% and a sensitivity of 25%.

3. Parameters for which the quality of analysis methods is regulated

No. in sequence	Parameter	Trueness of results (in per cent)	Precision of results (in per cent)	Limit of detection of method (in per cent of value)
1	2	3	4	5
3.1.	acrylamide	pursuant to technical standards documents		
3.2.	aluminium	10	10	10
3.3.	ammonium	10	10	10
3.4.	antimony	25	25	25
3.5.	arsenic	10	10	10
3.6.	benzene	25	25	25
3.7.	benzo(a)pyrene	25	25	25
3.8.	boron	10	10	10
3.9.	bromates	25	25	25
3.10.	cyanide (all forms)	10	10	10
3.11.	1,2-dichloroethane	25	25	10
3.12.	iron	10	10	10
3.13.	mercury	10	10	10
3.14.	conductivity	10	10	10
3.15.	epichlorohydrin	pursuant to technical standards documents		
3.16.	fluorides	10	10	10
3.17.	chlorides	10	10	10
3.18.	chromium	10	10	10
3.19.	cadmium	10	10	10
3.20.	manganese	10	10	10
3.21.	sodium	10	10	10
3.22.	nickel	10	10	10
3.23.	nitrates	10	10	10
3.24.	nitrites	10	10	10
3.25.	oxidisability (should be carried out for 10 minutes at 100 °C under acid conditions using potassium permanganate)	25	25	10
3.26.	pesticides (to be determined for each individual pesticide)	25	25	25
3.27.	polycyclic aromatic hydrocarbons	25	25	25
3.28.	selenium	10	10	10
3.29.	sulphates	10	10	10
3.30.	lead	10	10	10
3.31.	tetrachloroethene	25	25	10
3.32.	trihalomethanes – total	25	25	10
3.33.	trichloroethene	25	25	10

3.34.	hydrogen ion concentration	0.2 pH units	precision of the method not less than 0.2 pH units	
3.35.	copper	10	10	10
3.36.	vinyl chloride	pursuant to technical standards documents		

Notes:

1. Trueness of results – systematic error expressed as the difference between the true value of the parameter and the mean value obtained as a result of a sufficiently large number of repeated measurements.

2. Precision of results – random error expressed as the standard deviation of the mean parameter value. The acceptable precision is twice the relative standard deviation.

3. Limit of detection – three times the relative standard deviation of a control sample of natural water with the lowest concentration of the relevant parameter, which is determinable by the method utilised, or five times the relative standard deviation of a control sample.

4. The parameters with respect to determination of the total of polycyclic aromatic hydrocarbons (3.27) and trihalomethanes (3.32) shall apply to individual substances which shall be determined with a precision of 25% of the relevant parametric values referred to in Annex 1 of these Regulations.

5. The parameters with respect to determination of tetrachloroethene (3.31) and trichloroethene (3.33) shall apply to individual substances which shall be determined with a precision of 50% of the relevant parametric values referred to in Annex 1 of these Regulations.

Minister for Welfare V. Makarovs

