

Compliance with Drinking Water Quality Standards in Northern Ireland, 2019

September 2020



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To satisfy regulatory requirements for monitoring drinking water quality, samples are required to be collected from different locations within the water supply chain: from water treatment works, water supply points, service reservoirs, and water supply zones (consumers' taps). The Regulations contain specific Schedules which identify what parameters are to be tested for and under what circumstances. The results of the monitoring carried out by Northern Ireland Water Ltd (NI Water) for 2019 are presented in the following summary tables.

Table 1.1: Quality of Water Leaving Water Treatment Works - National Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Works with Failures
Coliform bacteria	0/100ml	6,252	1	0.02	1
<i>Escherichia coli</i>	0/100ml	6,252	0	0	0
Total		12,504	1	0.01	

Table 1.2: Quality of Water Leaving Water Treatment Works - European Directive Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Works with Failures
Nitrite	0.1 mg NO ₂ /l	236	0	0	0
Total		236	0	0	

Table 1.3: Quality of Water Leaving Water Treatment Works - Additional European Monitoring Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Works with Failures
Colony counts @ 22°C	No abnormal change	6,252	0	0	0
Colony counts @ 37°C	No abnormal change	6,252	0	0	0
Residual disinfectant (Free chlorine mg/l)		6,252	0	0	0
Residual disinfectant (Total chlorine mg/l)		6,252	0	0	0
Turbidity	1 NTU	6,252	7	0.11	6
Total		31,260	7	0.02	

Number of Water Treatment Works = 24

Table 1.4: Quality of Water Leaving Service Reservoirs - National Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Reservoirs with Failures
Coliform bacteria	0/100ml	14,923	13	0.09	13
<i>Escherichia coli</i>	0/100ml	14,923	0	0	0
Total		29,846	13	0.14	

Table 1.5: Quality of Water Leaving Service Reservoirs- Additional European Monitoring Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Reservoirs with Failures
Colony counts @ 22°C	No abnormal change	14,923	0	0	0
Colony counts @ 37°C	No abnormal change	14,923	0	0	0
Residual disinfectant (Free Chlorine mg/l)		14,923	0	0	0
Residual disinfectant (Total chlorine mg/l)		14,923	0	0	0
Total		59,692	0	0	

Number of Service Reservoirs = 288

Table 1.6: Quality of Water Leaving Supply Points - European Directive Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Cyanide	50 µg CN/l	236	0	0	0
Pesticides - 2,4-D	0.1 µg/l	236	0	0	0
Pesticides - 2,4-DB	0.1 µg/l	236	0	0	0
Pesticides - Asulam	0.1 µg/l	236	0	0	0
Pesticides - Bentazone	0.1 µg/l	236	0	0	0
Pesticides - Bromoxynil	0.1 µg/l	236	0	0	0
Pesticides -Chlorotoluron	0.1 µg/l	236	0	0	0
Pesticides - Chlorpyrifos	0.1 µg/l	236	0	0	0
Pesticides - Clopyralid	0.1 µg/l	236	0	0	0

Table 1.6: Quality of Water Leaving Supply Points - European Directive Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Pesticides - Dicamba	0.1 µg/l	236	0	0	0
Pesticides - Dichlorprop	0.1 µg/l	236	0	0	0
Pesticides - Diflufenican	0.1 µg/l	236	0	0	0
Pesticides - Dimethenamid	0.1 µg/l	236	0	0	0
Pesticides - Diuron	0.1 µg/l	236	0	0	0
Pesticides - Epoxiconazole	0.1 µg/l	236	0	0	0
Pesticides - Fenpropimorph	0.1 µg/l	236	0	0	0
Pesticides - Flufenacet	0.1 µg/l	236	0	0	0
Pesticides - Fluroxypyr	0.1 µg/l	236	0	0	0
Pesticides - Glyphosate	0.1 µg/l	228	0	0	0
Pesticides - Isoproturon	0.1 µg/l	236	0	0	0
Pesticides - Linuron	0.1 µg/l	236	0	0	0
Pesticides - MCPA	0.1 µg/l	236	2	0.85	1
Pesticides - MCPB	0.1 µg/l	236	0	0	0
Pesticides - MCPP (Mecoprop)	0.1 µg/l	236	0	0	0
Pesticides - Metalaxyl	0.1 µg/l	236	0	0	0
Pesticides - Metamitron	0.1 µg/l	236	0	0	0
Pesticides - Metazachlor	0.1 µg/l	236	0	0	0
Pesticides - Metoxuron	0.1 µg/l	236	0	0	0
Pesticides - Metribuzin	0.1 µg/l	236	0	0	0
Pesticides - Oxamyl	0.1 µg/l	236	0	0	0
Pesticides - Pendimethalin	0.1 µg/l	236	0	0	0
Pesticides - Phorate	0.1 µg/l	236	0	0	0
Pesticides - Pirimicarb	0.1 µg/l	236	0	0	0

Table 1.6: Quality of Water Leaving Supply Points - European Directive Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Pesticides - Propachlor	0.1 µg/l	236	0	0	0
Pesticides - Propiconazole	0.1 µg/l	236	0	0	0
Pesticides - Propyzamide	0.1 µg/l	236	0	0	0
Pesticides - Prothioconazole	0.1 µg/l	236	0	0	0
Pesticides - Tebuconazole	0.1 µg/l	236	0	0	0
Pesticides - Triclopyr	0.1 µg/l	236	0	0	0
Pesticides: Total	0.5 µg/l	236	0	0	0
Total		9,432	2	0.02	

Table 1.7: Quality of Water Leaving Supply Points - Additional European Monitoring Requirements

Parameter	Specification Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Supply Points with Failures
Chloride	250 mg Cl/l	400	0	0	0
Clostridium perfringens (including spores)	0/100 ml	236	2	0.85	2
Conductivity	2500 µS/cm at 20°C	1,984	0	0	0
Total indicative dose*	0.1 mSv/year	24	0	0	0
Sulphate	250 mg SO ₄ /l	400	0	0	0
Total organic carbon	No abnormal change (mg C/l)	400	0	0	0
Tritium (for radioactivity)	100 Bq/l	24	0	0	0
Total		3,468	2	0.06	

*Gross alpha and gross beta are used to monitor for indicative dose (radioactivity).

Number of Supply Points = 24

Table 1.8: Quality of Water at Consumer Taps (Water Supply Zones) - European Directive Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
1,2-dichloroethane	3 µg/l	400	0	0	0
Antimony	5 µg Sb/l	400	0	0	0
Arsenic	10 µg As/l	400	0	0	0
Benzene	1 µg/l	400	0	0	0
Benzo(a)pyrene	0.01 µg/l	400	0	0	0
Boron	1 mg B/l	400	0	0	0
Bromate	10 µg BrO ₃ /l	400	1	0.25	1
Cadmium	5 µg Cd/l	400	0	0	0
Chromium	50 µg Cr/l	400	0	0	0
Copper	2 mg Cu/l	400	0	0	0
Enterococci	0/100 ml	400	0	0	0
<i>Escherichia coli</i>	0/100 ml	5,544	1	0.02	1
Fluoride	1.5 mg F/l	400	0	0	0

Table 1.8: Quality of Water at Consumer Taps (Water Supply Zones) - European Directive Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
Lead	10 µg Pb/l	400	1	0.25	1
Mercury	1 µg Hg/l	289	0	0	0
Nickel	20 µg Ni/l	400	2	0.5	2
Nitrate	50 mg NO ₃ /l	400	0	0	0
Nitrite	0.5 mg NO ₂ /l	400	0	0	0
Polycyclic aromatic hydrocarbons (PAH)	0.1 µg/l	400	0	0	0
Selenium	10 µg Se/l	400	0	0	0
Tetrachloroethene and Trichloroethene	10 µg/l	400	0	0	0
Trihalomethanes: Total	100 µg/l	400	4	1.0	4
Total		13,833	9	0.07	

Table 1.9: Quality of Water at Consumer Taps (Water Supply Zones) - National Standards

Parameter	Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
Aluminium	200 µg Al/l	1,984	12	0.60	9
Colour	20 mg/l Pt/Co	1,984	0	0	0
Iron	200 µg Fe/l	1,984	22	1.11	11
Manganese	50 µg Mn/l	1,984	2	0.10	2
Odour	Acceptable to consumers and no abnormal change	1,984	8	0.40	6
Sodium	200 mg Na/l	400	0	0	0
Taste	Acceptable to consumers and no abnormal change	1,984	8	0.40	5
Tetrachloromethane	3 µg/l	400	0	0	0
Turbidity	4 NTU	1,984	1	0.50	1
Total		14,688	53	0.36	

Table 1.10: Quality of Water at Consumer Taps (Water Supply Zones) - Additional European Monitoring Requirements

Parameter	Specification Concentration or Value	Total Number of Tests	Number of Tests Failed	% of Tests Failed	Number of Zones with Failures
Ammonium	0.5 mg NH ₄ /l	1,984	0	0	0
Chloride	250 mg Cl/l	400	0	0	0
Coliform bacteria	0/100 ml	5,544	13	0.23	8
Colony counts @ 22°C	No abnormal change	1,984	0	0	0
Colony counts @ 37°C	No abnormal change	1,984	0	0	0
Hydrogen ion	maximum pH value 9.5	1,984	0	0	0
	minimum pH value 6.5				
Residual disinfectant (Free chlorine) mg/l		5,544	0	0	0
Residual disinfectant (Total chlorine) mg/l		5,544	0	0	0
Sulphate	250 mg SO ₄ /l	400	0	0	0
Total		25,368	13	0.05	

Number of Water Supply Zones = 51

Drinking Water Inspectorate for Northern Ireland
Resource Efficiency Division
Northern Ireland Environment Agency
Klondyke Building
Gasworks Business Park
Cromac Avenue
Malone Lower
Belfast
BT7 2JA

Tel: 028 9056 9282

E-mail: DWI@daera-ni.gov.uk

Web: www.daera-ni.gov.uk/topics/water/drinking-water

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