

**Appendix D**

**Ontario Drinking Water Quality Standards  
Tables**

<b>TABLE 1 – MICROBIOLOGICAL STANDARDS</b>	
<b>PARAMETER</b>	<b>MAC</b>
Escherichia coli (E. coli)	not detectable
Total Coliforms	not detectable

<b>TABLE 2 – CHEMICAL STANDARDS</b>		
<b>PARAMETER</b>	<b>MAC (mg/L)</b>	<b>IMAC (mg/L)</b>
Alachlor		0.005
Aldicarb	0.009	
Aldrin + Dieldrin	0.0007	
Antimony		0.006
Arsenic		0.025
Atrazine + N-dealkylated metabolites		0.005
Azinphos-methyl	0.02	
Barium	1	
Bendiocarb	0.04	
Benzene	0.005	
Benzo(a)pyrene	0.00001	
Boron		5
Bromate		0.01
Bromoxynil		0.005
Cadmium	0.005	
Carbaryl	0.09	
Carbofuran	0.09	
Carbon Tetrachloride	0.005	
Chloramines	3	
Chlordane (Total)	0.007	
Chlorpyrifos	0.09	
Chromium	0.05	
Cyanazine		0.01
Cyanide(free)	0.2	
Diazinon	0.02	
Dicamba	0.12	
1,2-Dichlorobenzene	0.2	

<b>TABLE 2 – CHEMICAL STANDARDS</b>		
<b>PARAMETER</b>	<b>MAC (mg/L)</b>	<b>IMAC (mg/L)</b>
1,4-Dichlorobenzene	0.005	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	0.03	
1,2-Dichloroethane		0.005
1,1-Dichloroethylene(vinylidene chloride)	0.014	
Dichloromethane	0.05	
2,4-Dichlorophenol	0.9	
2,4-Dichlorophenoxy acetic acid(2,4-D)		0.1
Diclofop-methyl	0.009	
Dimethoate		0.02
Dinoseb	0.01	
Dioxin and Furan		0.000000015 <sup>a</sup>
Diquat	0.07	
Diuron	0.15	
Fluoride	1.5 <sup>b</sup>	
Glyphosate		0.28
Heptachlor + Heptachlor Epoxide	0.003	
Lead	0.01 <sup>c</sup>	
Lindane (Total)	0.004	
Malathion	0.19	
Mercury	0.001	
Methoxychlor	0.9	
Metolachlor		0.05
Metribuzin	0.08	
Microcystin-LR	0.0015	
Monochlorobenzene	0.08	
Nitrate (as nitrogen)	10.0 <sup>d</sup>	
Nitrite (as nitrogen)	1.0 <sup>d</sup>	
Nitrate + Nitrite (as nitrogen)	10.0 <sup>d</sup>	
Nitritotriacetic Acid (NTA)	0.4	
N-Nitrosodimethylamine (NDMA)		0.000009
Paraquat		0.01
Parathion	0.05	
Pentachlorophenol	0.06	

<b>TABLE 2 – CHEMICAL STANDARDS</b>		
<b>PARAMETER</b>	<b>MAC (mg/L)</b>	<b>IMAC (mg/L)</b>
Phorate		0.002
Picloram		0.19
Polychlorinated Biphenyls (PCB)		0.003
Prometryne		0.001
Selenium	0.01	
Simazine		0.01
Temephos		0.28
Terbufos		0.001
Tetrachloroethylene (perchloroethylene)	0.03	
2,3,4,6-Tetrachlorophenol	0.1	
Triallate	0.23	
Trichloroethylene	0.005	
2,4,6-Trichlorophenol	0.005	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	0.28	
Trifluralin		0.045
Trihalomethanes	0.100 <sup>e</sup>	
Uranium	0.02	
Vinyl Chloride	0.002	

Short forms:

mg/L - milligrams per litre

**Footnotes:**

- a) Total toxic equivalents when compared with 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin).
- b) Where fluoride is added to drinking water, it is recommended that the concentration be adjusted to 0.5 -0.8 mg/L the optimum level for control of tooth decay. Where supplies contain naturally occurring fluoride at levels higher than 1.5 mg/L but less than 2.4 mg/L the Ministry of Health and Long Term Care recommends an approach through local boards of health to raise public and professional awareness to control excessive exposure to fluoride from other sources.
- c) This standard applies to water at the point of consumption. Since lead is a component in some plumbing systems, first flush water may contain higher concentrations of lead than water that has been flushed for five minutes.
- d) Where both nitrate and nitrite are present, the total of the two should not exceed 10 mg/L (as nitrogen).
- e) This standard is expressed as a running annual average of quarterly samples measured at point reflecting the maximum residence time in the distribution system.

**TABLE 3 – RADIONUCLIDE STANDARDS**

<b>NATURAL RADIONUCLIDES</b>					
<b>PARAMETER</b>	<b>MAC (Bq/L)</b>	<b>PARAMETER</b>	<b>MAC (Bq/L)</b>	<b>PARAMETER</b>	<b>MAC (Bq/L)</b>
Beryllium-7	4000	Radium-226	0.6	Thorium-234	20
Bismuth -210	70	Radium-228	0.5	Uranium-234	4
Lead-210	0.1	Thorium-228	2	Uranium-235	4
Polonium-210	0.2	Thorium-230	0.4	Uranium-238	4
Radium-224	2	Thorium-232	0.1		
<b>ARTIFICIAL RADIONUCLIDES</b>					
<b>PARAMETER</b>	<b>MAC (Bq/L)</b>	<b>PARAMETER</b>	<b>MAC (Bq/L)</b>	<b>PARAMETER</b>	<b>MAC (Bq/L)</b>
Americium-241	0.2	Iodine-125	10	Selenium-75	70
Antimony-122	50	Iodine-129	1	Silver-108m	70
Antimony-124	40	Iodine-131	6	Silver-110m	50
Antimony-125	100	Iron-55	300	Silver-111	70
Barium-140	40	Iron-59	40	Sodium-22	50
Bromine-82	300	Manganese-54	200	Strontium-85	300
Calcium-45	200	Mercury-197	400	Strontium-89	40
Calcium-47	60	Mercury-203	80	Strontium-90	5
Carbon-14	200	Molybdenum-99	70	Sulphur-35	500
Cerium-141	100	Neptunium-239	100	Technetium-99	200
Cerium-144	20	Niobium-95	200	Technetium-99m	7000
Cesium-131	2000	Phosphorus-32	50	Tellurium-129m	40
Cesium-134	7	Plutonium-238	0.3	Tellurium-131m	40
Cesium-136	50	Plutonium-239	0.2	Tellurium-132	40
Cesium-137	10	Plutonium-240	0.2	Thallium-201	2000
Chromium-51	3000	Plutonium-241	10	Tritium	7000
Cobalt-57	40	Rhodium-105	300	Ytterbium-169	100
Cobalt-58	20	Rubidium-81	3000	Yttrium-90	30
Cobalt-60	2	Rubidium-86	50	Yttrium-91	30
Gallium-67	500	Ruthenium-103	100	Zinc-65	40
Gold-198	90	Ruthenium-106	10	Zirconium-95	100
Indium-111	400				

**Notes on Table 3:**

Radionuclide concentrations that exceed the MAC may be tolerated for a short duration, provided that the annual average concentrations remain below the MAC and the restriction (see immediately below) for multiple radionuclides is met.

Restrictions for multiple radionuclides - If two or more radionuclides are present, the following relationship based on International Commission on Radiological Protection (ICRP) Publication 26, must be satisfied and if not satisfied, it shall be considered to be exceedance of an MAC.

$$\frac{c_1}{C_1} + \frac{c_2}{C_2} + \dots + \frac{c_i}{C_i} \leq 1$$

Where,  $c_1$ ,  $c_2$ , and  $c_i$  are the observed concentrations, and  $C_1$ ,  $C_2$  and  $C_i$  are the maximum acceptable concentrations for each contributing radionuclide.

<b>TABLE 4 – OBJECTIVES AND GUIDELINES</b>		
<b>PARAMETER</b>	<b>AO</b> (mg/L - unless otherwise specified)	<b>OG</b> (mg/L - unless otherwise specified)
1,2-Dichlorobenzene	0.003 <sup>a</sup>	
1,4-Dichlorobenzene	0.001 <sup>a</sup>	
2,4-Dichlorophenol	0.0003 <sup>a</sup>	
2,3,4,6-Tetrachlorophenol	0.001 <sup>a</sup>	
2,4,6-Trichlorophenol	0.002 <sup>a</sup>	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	0.02 <sup>a</sup>	
Alkalinity (as CaCO <sub>3</sub> )		30-500
Aluminum		0.1
Chloride	250	
Colour	5 TCU	
Copper	1	
Dissolved Organic Carbon	5	
Ethylbenzene	0.0024	
Hardness (as CaCO <sub>3</sub> )		80-100
Heterotrophic Plate Count (HPC)- General bacteria population expressed as colony counts on a heterotrophic plate count		f
Iron	0.3	
Manganese	0.05	
Methane	3L/ m <sup>3</sup>	
Monochlorobenzene	0.03 <sup>a</sup>	
Odour	Inoffensive	

**TABLE 4 – OBJECTIVES AND GUIDELINES**

<b>PARAMETER</b>	<b>AO</b> (mg/L - unless otherwise specified)	<b>OG</b> (mg/L - unless otherwise specified)
Organic Nitrogen		0.15
pH		6.5-8.5 (no units)
Pentachlorophenol	0.03 <sup>a</sup>	
Sodium	b	
Sulphate	500 <sup>c</sup>	
Sulphide	0.05	
Taste	Inoffensive	
Temperature	15 <sup>0</sup> C	
Toluene	0.024	
Total Dissolved Solids	500	
Turbidity	5 NTU <sup>d</sup>	e
Xylenes	0.3	
Zinc	5	

**Short Forms:**

NTU - Nephelometric Turbidity unit

**Footnotes:**

- a) Refer to Table 2 for standard
- b) The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets
- c) When sulphate levels exceed 500 mg/L, water may have a laxative effect on some people
- d) Applicable for all waters at the point of consumption.
- e) The Operational Guidelines for filtration processes are provided as performance criteria in the Procedure for Disinfection of Drinking Water in Ontario.
- f) Increases in HPC concentrations above baseline levels are considered undesirable.