

Appendix F
CCME FWAL Guidelines

CCME Canadian Environmental Quality Guidelines
Summary Table

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical groups	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
1.1.1: Trichloroethane CASRN 71556	Organic Halogenated aliphatic compounds Chlorinated ethanes		insufficient data	1991		insufficient data	1991
1.1.2.2: Tetrachloroethane PCE (Tetrachloroethylene) CASRN 127184	Organic Halogenated aliphatic compounds Chlorinated ethanes		110	1993		insufficient data	1993
1.1.2.2: Tetrachloroethane CASRN 79345	Organic Halogenated aliphatic compounds Chlorinated ethanes		insufficient data	1991		insufficient data	1991
1.1.2: Trichloroethane TCE (Trichloroethylene) CASRN 790106	Organic Halogenated aliphatic compounds Chlorinated ethanes		21	1991		insufficient data	1991
1.2.3.4: Tetrachlorobenzene CASRN 634662	Organic Monocyclic aromatic compounds Chlorinated benzenes		1.8	1997		insufficient data	1997
1.2.3.4: Tetrachlorobenzene	Organic Monocyclic aromatic compounds Chlorinated benzenes		insufficient data	1997		insufficient data	1997

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical group	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
<u>1,2,3-Trichlorobenzene</u> CASRN 87616	Organic Monocyclic aromatic compounds Chlorinated benzenes		8	1997		Insufficient data	1997
<u>1,2,4,5-Tetrachlorobenzene</u>	Organic Monocyclic aromatic compounds Chlorinated benzenes		Insufficient data	1997		Insufficient data	1997
<u>1,2,4-Trichlorobenzene</u> CASRN 120801	Organic Monocyclic aromatic compounds Chlorinated benzenes		24	1997	5.4		1997
<u>1,2-Dichlorobenzene</u> CASRN 95501	Organic Monocyclic aromatic compounds Chlorinated benzenes		0.7	1997	42		1997
<u>1,2-Dichloroethane</u> CASRN 1070602	Organic Halogenated aliphatic compounds Chlorinated ethanes		100	1991		Insufficient data	1991
<u>1,3,5-Trichlorobenzene</u>	Organic Monocyclic aromatic compounds Chlorinated benzenes		Insufficient data	1997		Insufficient data	1997
<u>1,3-Dichlorobenzene</u> CASRN 541731	Organic Monocyclic aromatic compounds Chlorinated benzenes		150	1997		Insufficient data	1997
<u>1,4-Dichlorobenzene</u> CASRN 106467	Organic Monocyclic aromatic compounds Chlorinated benzenes		26	1997		Insufficient data	1997
<u>1,4-Dioxane</u>		NRG	NRG	2008	NRG	NRG	2008
<u>3-Iodo-2-propylbutyl carbamate</u> IPBC CASRN 554065360	Organic Pesticides Carbamate pesticides		1.9	1999			
<u>Acenaphthene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		5.8	1999		Insufficient data	1999



Comments or questions? Contact us at info@ccme.ca

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical groups	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
<u>Acenaphthylene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons			1999			1999
<u>Acridine</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		4.4	1999		Insufficient data	1999
<u>Aldicarb</u> CASRN 116063	Organic Pesticides Carbamate pesticides		1	1993		0.15	1993
<u>Aldrin</u>	Organic Pesticides Organochlorine compounds		9-004	1987			
<u>Aluminium</u>	Inorganic		Variable	1987			
<u>Ammonia (total)</u>	Inorganic Inorganic nitrogen compounds		Table	2001			
<u>Ammonia (un-ionized)</u> CASRN 7664417	Inorganic Inorganic nitrogen compounds		19	2001			
<u>Aniline</u> CASRN 62533	Organic		2.2	1993		Insufficient data	1993
<u>Anthracene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		0.012	1999		Insufficient data	1999
<u>Arsenic</u> CASRN none	Inorganic		5	1997		12.5	1997
<u>Atrazine</u> CASRN 1912249	Organic Pesticides Triazine compounds		1.8	1989			
<u>Benzene</u> CASRN 71432	Organic Monocyclic aromatic compounds		270	1999		110	1999
<u>Benzo(a)anthracene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		0.018	1999		Insufficient data	1999

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical Name	Chemical Groups	Freshwater		Date	Marine		Date
		Concentration (µg/L) Short Term	Concentration (µg/L) Long Term		Concentration (µg/L) Short Term	Concentration (µg/L) Long Term	
<u>Benzo(a)pyrene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		<u>0.015</u>	1999		Insufficient data	1999
<u>Boron</u>	Inorganic	29,000µg/L or 29mg/L	1,500µg/L or 1.5mg/L	2009	NRG	NRG	2009
<u>Bromacil</u> CASRN 314409	Organic Pesticides		<u>5</u>	1997		Insufficient data	1997
<u>Bromoxynil</u>	Organic Pesticides Benzonitrile compounds		<u>5</u>	1993		Insufficient data	1993
<u>Cadmium</u> CASRN 7440439	Inorganic		<u>Equation</u>	1996		<u>0.12</u>	1996
<u>Captaf</u> CASRN 133062	Organic Pesticides		<u>1.3</u>	1991			
<u>Carbaryl</u> CASRN 63252	Organic Pesticides Carbamate pesticides	3.3	<u>0.2</u>	2009	<u>5.7</u>	<u>0.29</u>	2009
<u>Carbofuran</u> CASRN 1564662	Organic Pesticides Carbamate pesticides		<u>1.8</u>	1989			
<u>Chlordane</u>	Organic Pesticides Organochlorine compounds		<u>0.005</u>	1987			
<u>Chlorothalonil</u> CASRN 1897456	Organic Pesticides		<u>0.18</u>	1994		<u>0.36</u>	1994
<u>Chlorpyrifos</u> CASRN 2921882	Organic Pesticides Organophosphorus compounds	0.02	<u>0.002</u>	2009	NRG	<u>0.002</u>	2008
<u>Chromium, hexavalent (Cr(VI))</u> CASRN 7440473	Inorganic		<u>1</u>	1997		<u>1.5</u>	1997
<u>Chromium, trivalent (Cr(III))</u> CASRN 7440473	Inorganic		<u>8.9</u>	1997		<u>56</u>	1997
<u>Chrysene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		Insufficient data	1999		Insufficient data	1999

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical names	Chemical groups	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
Colour							
CASRN N/A	Physical		<u>Narrative</u>	1999		<u>Narrative</u>	1999
Copper	Inorganic		<u>Equation</u>	1987			
CASRN 2175462	Organic Pesticides Triazine compounds		<u>2</u>	<u>1990</u>			
Cyanide	Inorganic		<u>5 (as free CN)</u>	1987			
Debris							
CASRN N/A	Physical					<u>Narrative</u>	1996
Deltamethrin	Organic Pesticides		0.0004	1997		Insufficient data	1997
Deposited biological sediment	Physical Turbidity, clarity and suspended solids Total particulate matter		Insufficient data	1999		Insufficient data	1999
Di(2-ethylhexyl) phthalate	Organic Phthalate esters		<u>16</u>	1993		Insufficient data	1993
CASRN 117817							
Di-n-butyl phthalate	Organic Phthalate esters		<u>19</u>	1993		Insufficient data	1993
CASRN 84742							
Di-n-octyl phthalate	Organic Phthalate esters		Insufficient data	1993		Insufficient data	1993
CASRN 117840							
Dibromochloromethane	Organic Halogenated aliphatic compounds Halogenated methanes		<u>Insufficient data</u>	1992		<u>Insufficient data</u>	1992
Dicamba	Organic Pesticides Aromatic Carboxylic Acid		<u>10</u>	1993			
CASRN 1918009							
Dichloro diphenyl trichloroethane: 2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane DDT (total)	Organic Pesticides Organochlorine compounds		<u>0.001</u>	1987			
Dichlorobromomethane	Organic Halogenated aliphatic compounds Halogenated methanes		<u>Insufficient data</u>	1992		<u>Insufficient data</u>	1992
Dichloromethane, Methylene chloride	Organic Halogenated aliphatic compounds Halogenated methanes		<u>0.01</u>	1992		Insufficient data	1992
CASRN 75082							

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical groups	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
Dichlorophenols	Organic Monocyclic aromatic compounds Chlorinated phenols		0.2	1987			
Diclofop-methyl CASRN 51338273	Organic Pesticides		6.1	1993			
Didecyl dimethyl ammonium chloride DDAC CASRN 7173515	Organic Pesticides		1.5	1999		Insufficient data	1999
Diethylamyl glycol CASRN 111466	Organic Glycols		Insufficient data	1997		Insufficient data	1997
Diisopropylamine DIPA CASRN 110974	Organic		1600	2005		insufficient data	2005
Dimethoate CASRN 60515	Organic Pesticides Organophosphorus compounds		5.2	1993		Insufficient data	1993
Dinoseb CASRN 88857	Organic Pesticides		0.05	1992			
Dissolved gas supersaturation CASRN N/A	Physical		Narrative	1999		Narrative	1999
Dissolved oxygen DO CASRN N/A	Inorganic		Variable	1999		>2000 & Narrative	1996
Endosulfan	Organic Pesticides Organochlorine compounds	0.06	0.003	2010	0.09	0.002	2010
Endrin	Organic Pesticides Organochlorine compounds		0.0023	1987		No data	
Ethylbenzene CASRN 100414	Organic Monocyclic aromatic compounds		90	1996		25	1996
Ethylene glycol CASRN 107211	Organic Glycols		192 000	1997		Insufficient data	1997
Fluoranthene PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		0.04	1999		Insufficient data	1999

CCME Comments or questions? Contact us at info@ccme.ca

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical Name	Chemical group	Freshwater			Marine		Date
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	
		Short Term	Long Term		Short Term	Long Term	
<u>Fluorene</u> PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		<u>3</u>	1999		Insufficient data	1999
<u>Glyphosate</u> CASRN 1071836	Organic Pesticides Organophosphorus compounds		<u>65</u>	1989			
<u>Heptachlor</u> Heptachlor epoxide	Organic Pesticides Organochlorine compounds		<u>0.01</u>	1987			
<u>Hexachlorobenzene</u>	Organic Monocyclic aromatic compounds Chlorinated benzenes		Insufficient data	1997		Insufficient data	1997
<u>Hexachlorobutadiene</u> HCBd CASRN 87683	Organic Halogenated aliphatic compounds		<u>1.3</u>	1999			
<u>Hexachlorocyclohexane</u> Lindane	Organic Pesticides Organochlorine compounds		<u>0.01</u>	1987			
<u>Imidacloprid</u> CASRN 13826413			<u>0.23</u>	2007		<u>0.65</u>	2007
<u>Inorganic Mercury</u> CASRN 7439976	Inorganic		<u>0.026</u>	2003		<u>0.016</u>	2003
<u>Inorganic fluorides</u> CASRN 7782414	Inorganic		<u>120</u>	2002			2002
<u>Iron</u>	Inorganic		<u>300</u>	1987			
<u>Lead</u>	Inorganic		<u>Equation</u>	1987			
<u>Linuron</u> CASRN 41205214	Organic Pesticides		<u>7</u>	1995			1995
<u>Methozone</u> CASRN 40596698			0.05 (Target Organism Management value: 0.53)	2007		Insufficient data	2007
<u>Methyl tertiary-butyl ether</u> MTBE CASRN 1634044	Organic Non-halogenated aliphatic compounds Aliphatic ether		<u>10 000</u>	2003		<u>5 000</u>	2003



Comments or questions? Contact us at 416-953-0000, CA

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical group	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
Methylchlorophenoxyacetic acid (4-Chloro-2-methylphenoxy acetic acid; 2-Methyl-4-chloro phenoxy acetic acid) MCPA CASRN 94746	Organic Pesticides		2.6	1995		4.2	1995
Methylmercury	Organic		0.004	2003		NRG	2003
Metolachlor CASRN 51218452	Organic Pesticides Organochlorine compounds		7.8	1991			
Metribuzin CASRN 21087649	Organic Pesticides Triazine compounds		1	1990			
Molybdenum	Inorganic		23	1999			
Monobromomethane Methyl bromide	Organic Halogenated aliphatic compounds Halogenated methanes		<u>Insufficient data</u>	1992		<u>Insufficient data</u>	1992
Monochlorobenzene CASRN 108907	Organic Monocyclic aromatic compounds Chlorinated benzenes		1.1	1997		25	1997
Monochloromethane Methyl chloride	Organic Halogenated aliphatic compounds Halogenated methanes		<u>Insufficient data</u>	1992		<u>Insufficient data</u>	1992
Monochlorophenols	Organic Monocyclic aromatic compounds Chlorinated phenols		2	1987			
Naphthalene PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		1.1	1999		1.4	1999
Nickel	Inorganic		<u>Equation</u>	1987			
Nitrate CASRN 14797558	Inorganic Inorganic nitrogen compounds		12 000	2003		26 000	2003

CCME Comments or questions? Contact us at info@ccme.ca

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical groups	Freshwater			Marine		
		Concentration (µg/L)		Date	Concentration (µg/L)		Date
		Short Term	Long Term		Short Term	Long Term	
Nitrite	Inorganic Inorganic nitrogen compounds		60 NO₂-N	1987			
Nonylphenol and its ethoxylates CASRN 84852153	Organic Nonylphenol and its ethoxylates		1	2002	0.7	2002	
Nutrients			Guidance Framework	2004	Guidance Framework	2007	
Pentachlorobenzene CASRN 608935	Organic Monocyclic aromatic compounds Chlorinated benzenes		6	1997	Insufficient data	1997	
Pentachlorophenol PCP	Organic Monocyclic aromatic compounds Chlorinated phenols		0.5	1987			
Permethrin CASRN 52645531	Organic Pesticides Organochlorine compounds		0.004	2006	0.001	2006	
Phenanthrene PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		0.4	1999	Insufficient data	1999	
Phenols (mono- & dihydric) CASRN 108952	Organic Aromatic hydroxy compounds		4	1999			
Phenoxy herbicides 2,4 D; 2,4- Dichlorophenoxyacetic acid	Organic Pesticides		4	1987			
Phosphorus	Inorganic		Guidance Framework	2004	Guidance Framework	2007	
Picloram CASRN 1918021	Organic Pesticides		29	1990			
Polychlorinated biphenyls PCBs	Organic Polyaromatic compounds Polychlorinated biphenyls		0.003	1987	0.01	1991	
Propylene glycol CASRN 57356	Organic Glycols		500,000	1997	Insufficient data	1997	
Pyrene PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		0.025	1999	Insufficient data	1999	

CCME Comments or questions? Contact us at info@ccme.ca

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical groups	Freshwater			Marine		
		Concentration (µg/L)	Concentration (µg/L)	Date	Concentration (µg/L)	Concentration (µg/L)	Date
		Short Term	Long Term		Short Term	Long Term	
pH	Inorganic Acidity, alkalinity and pH		6.5 to 9.0	1987		7.0 to 8.7 & Narrative	1996
Quinolins PAHs	Organic Polyaromatic compounds Polycyclic aromatic hydrocarbons		3.4	1999		Insufficient data	1999
Reactive Chlorine Species total residual chlorine, combined residual chlorine, total available chlorine, hypochlorous acid, chloramine, combined available chlorine, free residual chlorine, free available chlorine, chlorine-produced oxidants	Inorganic Reactive chlorine compounds		0.5	1999		0.5	1999
Salinity	Physical					Narrative	1996
Selenium	Inorganic		1	1987			
Silver	Inorganic		0.1	1987			
Simazine CASRN 122349	Organic Pesticides Triazine compounds		10	1991		No data	
Streambed substrate	Physical Turbidity, clarity and suspended solids Total particulate matter		Narrative	1999		Narrative	1999
Styrene CASRN 100425	Organic Monocyclic aromatic compounds		72	1999			
Sulfolane Bordelane CASRN 126330	Organic Organic sulphur compound		50 000	2005		Insufficient data	2005
Suspended sediments TSS	Physical Turbidity, clarity and suspended solids Total particulate matter		Narrative	1999		Narrative	1999
Tebuthiuron CASRN 34014181	Organic Pesticides		1.6	1995		Insufficient data	1995
Temperature	Physical Temperature		Narrative	1987		Narrative	1996

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

Water Quality Guidelines for the Protection of Aquatic Life							
Chemical name	Chemical groups	Freshwater			Marine		Date
		Concentration (µg/L)	Concentration (µg/L)	Concentration (µg/L)	Concentration (µg/L)	Date	
		Short Term	Long Term		Short Term	Long Term	
<u>Tetrachloromethane</u> Carbon tetrachloride CASRN 56235	Organic Halogenated aliphatic compounds Halogenated methanes		<u>13.3</u>	1992		Insufficient data	1992
<u>Tetrachlorophenols</u>	Organic Monocyclic aromatic compounds Chlorinated phenols		<u>1</u>	1987			
<u>Thallium</u>	Inorganic		<u>0.8</u>	1999			
<u>Toluene</u> CASRN 108883	Organic Monocyclic aromatic compounds		<u>2</u>	1996		<u>215</u>	1996
<u>Toxaphene</u>	Organic Pesticides Organochlorine compounds		<u>0.008</u>	1987			
<u>Triallate</u> CASRN 2303175	Organic Pesticides Carbamate pesticides		<u>0.24</u>	1992			
<u>Tribromomethane</u> Bromoform	Organic Halogenated aliphatic compounds Halogenated methanes		Insufficient data	1992		Insufficient data	1992
<u>Tributyltin</u>	Organic Organotin compounds		<u>0.008</u>	1992		<u>0.003</u>	1992
<u>Trichloromethane</u> Chloroform CASRN 67663	Organic Halogenated aliphatic compounds Halogenated methanes		<u>1.8</u>	1992		Insufficient data	1992
<u>Trichlorophenols</u>	Organic Monocyclic aromatic compounds Chlorinated phenols		<u>1.8</u>	1987			
<u>Tricyclohexytin</u>	Organic Organotin compounds		Insufficient data	1992		Insufficient data	1992
<u>Trifluralin</u> CASRN 1582098	Organic Pesticides Dinitroaniline pesticides		<u>0.2</u>	1993			

Users are advised to consult the Canadian Environmental Quality Guidelines introductory text, factsheet, and/or protocols for specific information and implementation guidance pertaining to each environmental quality guideline.

		Water Quality Guidelines for the Protection of Aquatic Life					
		Freshwater			Marine		
Chemical name	Chemical groups	Concentration	Concentration	Date	Concentration	Concentration	Date
		(µg/L)	(µg/L)		(µg/L)	(µg/L)	
		Short Term	Long Term		Short Term	Long Term	
Triphenyltin	Organic Organotin compounds		<u>0.022</u>	1992			1992
Turbidity	Physical Turbidity, clarity and suspended solids Total particulate matter		<u>Narrative</u>	1999		<u>Narrative</u>	1999
Uranium							
CASRN 7440-61-1	Inorganic	33	15	2011	<u>NRG</u>	<u>NRG</u>	2011
Zinc	Inorganic		<u>30</u>	1987			

Values Chemical name Chemical groups

No Chemicals with Data

CCME Considers all requests. Contact us at info@ccme.ca