

**INVENTORY OF MAJOR IONS AND NUTRIENTS IN WATER  
MATRIX REFERENCE MATERIALS**

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	*denotes a measurand which was removed from the previous lots#		*denotes a new lot #, new RM or newly added measurand.							
	AES-15		ASSIN-02		BATTLE-19		BIGMOOSE-14		CRANBERRY-20	
	Rain Water		River Water		River Water		Lake Water		Lake Water	
	lot 1024		lot 1024		lot 1123		lot 1123		lot 1123	
	Value in mg/L		Value in mg/L		Value in mg/L		Value in mg/L		Value in mg/L	
Acidity to pH 8.3										
Alkalinity, Gran (as CaCO <sub>3</sub> )			253 ± 11		191 ± 8				42.6 ± 3.4	
Alkalinity, Total (as CaCO <sub>3</sub> )										
Aluminum	0.00913 ± 0.00582						0.157 ± 0.016			
Ammonia (as N)	0.157 ± 0.012						0.0503 ± 0.0084			
Boron			0.121 ± 0.024							
Calcium	0.112 ± 0.022		76.0 ± 5.4		30.7 ± 1.8		1.42 ± 0.12		11.0 ± 0.684	
Chloride	0.299 ± 0.034		20.9 ± 1.3		16.8 ± 0.8				34.2 ± 1.282	
Colour (Hazen Units)			11.0 ± 4.0				22.3 ± 5.5			
Conductivity (µS/cm, 25°C)	5.25 ± 0.75		924 ± 26		575 ± 18				209 ± 8.34	
Dissolved Inorganic Carbon (DIC)	0.395 ± 0.168		58.6 ± 5.5		45.1 ± 4.5					
Dissolved Organic Carbon (DOC)			7.72 ± 0.61		5.47 ± 0.71		4.17 ± 0.53			
Fluoride			0.162 ± 0.042		0.0987 ± 0.0163		0.0445 ± 0.0083			
Magnesium	0.0343 ± 0.0063		46.1 ± 3.9		17.1 ± 1.5		0.224 ± 0.016		5.16 ± 0.44	
Nitrate + Nitrite (as N)	0.123 ± 0.010		0.923 ± 0.110				0.267 ± 0.019			
pH (units, 25°C)	5.58 ± 0.24				8.34 ± 0.20		6.15 ± 0.25		7.65 ± 0.38	
Potassium			11.2 ± 0.7		4.24 ± 0.43		0.303 ± 0.030		0.643 ± 0.103	
Silica (as Si)							1.57 ± 0.13			
Silicates (as SiO <sub>2</sub> )			14.7 ± 1.0		4.15 ± 0.29				2.69 ± 0.20	
Sodium	0.238 ± 0.024		58.0 ± 4.1		70.3 ± 4.9		0.674 ± 0.064			
Sulfate (as SO <sub>4</sub> )	0.558 ± 0.056		223 ± 14		84.7 ± 4.4		2.48 ± 0.14		4.64 ± 0.34	
Total Kjeldahl Nitrogen (TKN)			0.547 ± 0.168							
Total Nitrogen			1.44 ± 0.14		0.357 ± 0.084		0.444 ± 0.048			
Hardness, Total (as CaCO <sub>3</sub> )			378 ± 20		147 ± 9				49.1 ± 3.5	

	HAMIL-20.3		ION-96.5		LON-18		MAURI-17		SANGAMON-19	
	Lake Water		Rain Water		Lake Water		River Water		River Water	
	lot 1024		lot 1024		lot '0524		lot 1024		lot 1024	
	Value in mg/L		Value in mg/L		Value in mg/L		Value in mg/L		Value in mg/L	
Acidity to pH 8.3										
Alkalinity, Gran (as CaCO <sub>3</sub> )							6.17 ± 0.74			
Alkalinity, Total (as CaCO <sub>3</sub> )	146 ± 8		215 ± 10		94.0 ± 4.7				248 ± 11	
Aluminum										
Ammonia (as N)			0.0434 ± 0.0096							
Boron										
Calcium	58.4 ± 3.8		93.0 ± 7.0		33.8 ± 2.6		2.24 ± 0.18		60.8 ± 3.9	
Chloride	119 ± 6		77.1 ± 3.5		23.4 ± 0.9		1.02 ± 0.08		62.9 ± 2.6	
Colour (Hazen Units)							36.7 ± 7.5			
Conductivity (µS/cm, 25°C)	781 ± 24		817 ± 27		308 ± 12		24.2 ± 1.6		767 ± 25	
Dissolved Inorganic Carbon (DIC)	34.1 ± 3.8		50.2 ± 5.1				1.57 ± 0.35		57.7 ± 6.1	
Dissolved Organic Carbon (DOC)					1.90 ± 0.40		5.32 ± 0.63			
Fluoride	0.271 ± 0.054		0.129 ± 0.028		0.11 ± 0.02				0.230 ± 0.046	
Magnesium	16.5 ± 1.7		22.5 ± 2.1		8.86 ± 0.67		0.573 ± 0.038		38.4 ± 3.4	
Nitrate + Nitrite (as N)			3.11 ± 0.26		0.330 ± 0.036					
pH (units, 25°C)	8.19 ± 0.20		8.30 ± 0.19		8.10 ± 0.21		6.87 ± 0.28		8.33 ± 0.30	
Potassium	4.91 ± 0.44		3.05 ± 0.27		1.61 ± 0.15		0.365 ± 0.032		3.62 ± 0.30	
Silica (as Si)							1.91 ± 0.14			
Silicates (as SiO <sub>2</sub> )	0.370 ± 0.046		0.351 ± 0.038		0.755 ± 0.062				7.29 ± 0.45	
Sodium	71.6 ± 5.3		44.8 ± 3.0		13.9 ± 0.9		1.55 ± 0.11		44.5 ± 2.7	
Sulfate (as SO <sub>4</sub> )	51.1 ± 2.7		88.8 ± 5.1		23.9 ± 1.0		2.03 ± 0.15		69.9 ± 4.0	
Total Kjeldahl Nitrogen (TKN)					121 ± 8					
Total Nitrogen	3.13 ± 0.30		3.44 ± 0.34				0.222 ± 0.040			
Hardness, Total (as CaCO <sub>3</sub> )	215 ± 15		325 ± 19		0.465 ± 0.063				311 ± 19	

	MISSISSIPPI-14		ONTARIO-12		PERADE-17		RAIN-12		SUPER-19	
	River Water		Lake Water		River Water		Rain Water		Lake Water	
	lot 1024		lot 1024		lot 1024		lot 1123		lot '0524	
	Value in mg/L		Value in mg/L		Value in mg/L		Value in mg/L		Value in mg/L	
Acidity to pH 8.3										
Alkalinity, Gran (as CaCO <sub>3</sub> )					9.60 ± 0.87					
Alkalinity, Total (as CaCO <sub>3</sub> )	115 ± 6		93.3 ± 5.4		0.0828 ± 0.2820				43 ± 4	
Aluminum										
Ammonia (as N)							0.0983 ± 0.0096			
Boron	0.0203 ± 0.0033		0.0257 ± 0.0065							
Calcium	39.1 ± 3.1		34.1 ± 2.4		3.78 ± 0.28		0.690 ± 0.052		13.5 ± 1.0	
Chloride	15.9 ± 0.8		22.8 ± 1.2		1.44 ± 0.10		0.189 ± 0.024		1.52 ± 0.17	
Colour (Hazen Units)	37.7 ± 8.4				36.1 ± 7.8					
Conductivity (µS/cm, 25°C)	331 ± 12		308 ± 11		33.5 ± 2.2		17.2 ± 1.9		98.8 ± 4.7	
Dissolved Inorganic Carbon (DIC)	26.8 ± 3.4		21.9 ± 2.9		2.39 ± 0.38					
Dissolved Organic Carbon (DOC)			1.86 ± 0.38							
Fluoride	0.118 ± 0.024		0.113 ± 0.024							
Magnesium	12.6 ± 1.1		8.76 ± 0.60		0.632 ± 0.048		0.261 ± 0.018		2.88 ± 0.19	
Nitrate + Nitrite (as N)	2.93 ± 0.23		0.370 ± 0.052		0.170 ± 0.014		0.315 ± 0.019		0.327 ± 0.027	
pH (units, 25°C)	8.08 ± 0.28		8.09 ± 0.24		7.09 ± 0.29		4.73 ± 0.12			
Potassium	2.49 ± 0.20		1.60 ± 0.11		0.417 ± 0.040		0.04 ± 0.01		0.514 ± 0.049	
Silica (as Si)					2.56 ± 0.19		0.0233 ± 0.0137			
Silicates (as SiO <sub>2</sub> )	6.21 ± 0.44		0.663 ± 0.066						2.10 ± 0.17	
Sodium	7.82 ± 0.65		13.4 ± 1.0		1.79 ± 0.12		0.0764 ± 0.0132			
Sulfate (as SO <sub>4</sub> )	19.4 ± 1.1		25.1 ± 1.3		2.44 ± 0.17		2.90 ± 0.18		3.54 ± 0.37	
Total Kjeldahl Nitrogen (TKN)			0.156 ± 0.064						46.0 ± 2.4	
Total Nitrogen	3.36 ± 0.35		0.506 ± 0.068		0.315 ± 0.051		0.424 ± 0.044			
Hardness, Total (as CaCO <sub>3</sub> )	150 ± 12		121 ± 8							



All values are in mg/L, unless otherwise specified.  
Values and pricing subject to changes