



ENVIRONMENTAL METHODS LIST – USEPA Rev 10

AQ2

Method Detection Limits are calculated using USEPA procedure 40 CFR, Part 136, Appendix B

ANALYTE	METHOD DESCRIPTION	METHOD NUMBER	METHOD DETECTION LIMIT	EQUIVALENCE
ALKALINITY	Buffered methyl orange color reduction	EPA-100-A	3.5 mg CaCO ₃ /L (Range: 5 to 80 mg/L)	EPA 310.2
		EPA-101-A	8 mg CaCO ₃ /L (Range: 15 to 200 mg/L)	
		EPA-102-A	27 mg CaCO ₃ /L (Range: 44 to 550 mg/L)	
AMMONIA	Alkaline phenate method with hypochlorite and sodium nitroprusside (indophenol blue)	EPA-103-A	0.007 mg N/L (Range: 0.02 to 2.0 mg N/L)	EPA 350.1 Std. Methods 4500-NH ₃ G (19 th , 20 th)
		EPA-129-A	0.05 mg N/L (Range: 0.2 to 10 mg N/L)	
AMMONIA	Alkaline phenate method with hypochlorite and sodium nitroprusside (indophenol blue). This is a brackish method.	EPA-104-A	0.02 mg N/L (Range: 0.05 to 2.0 mg N/L)	EPA 350.1 Std. Methods 4500-NH ₃ G (19 th , 20 th)
CHLORIDE	Mercuric thiocyanate reaction in the presence of ferric nitrate	EPA-105-A	0.3 mg/L (Range: 2 to 100 mg/L)	Std. Methods 4500-Cl ⁻ E (18 th , 19 th , 20 th)
		EPA-124-A	0.4 mg/L (Range: 5 to 200 mg/L)	
CHROMIUM, Hexavalent	Colorimetric	EPA-108-A	0.001 mg/L (Range: 0.025 to 0.5 mg Cr(VI)/L)	EPA 218.4 Std. Methods 3500-Cr B (20 th)
		EPA-109-A	0.011 mg/L (Range: 0.3 to 5.0 mg Cr(VI)/L)	
COLOR	Platinum-cobalt standard comparison	EPA-140-A	2 Color Units (Range: 5 to 150 Color Units)	Std. Methods 2120 B (18 th , 19 th , 20 th)
CYANIDE	Amenable to chlorination (Manual distillation required)	EPA-107-A	0.0004 mg CN/L (Range: 0.002 to 0.3 mg CN/L)	EPA 335.1 Std. Methods 4500-CN G (18 th , 19 th , 20 th)
CYANIDE	Chloramine-T with pyridine barbituric acid color reaction (Manual distillation required)	EPA-107-A	0.0004 mg CN/L (Range: 0.002 to 0.3 mg CN/L)	EPA 335.2 Std. Methods 4500-CN E (18 th , 19 th , 20 th)
CYANIDE	Chloramine-T with pyridine barbituric acid color reaction (Manual distillation required)	EPA-130-A	0.0005 mg CN/L (Range: 0.003 to 0.25 mg CN/L)	EPA 335.4 Std. Methods 4500-CN E (18 th , 19 th , 20 th)
CYANIDE	Amenable to chlorination (Without distillation)	EPA-133-A	0.0004 mg CN/L (Range: 0.002 to 0.3 mg CN/L)	Std. Methods 4500-CN H (20 th)

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HARDNESS, Total	Calmagite indicator reaction	EPA-106-A	11 mg CaCO ₃ /L (Range: 25 to 400 mg/L)	EPA 130.1
NITROGEN, Total Kjeldahl (TKN)	Kjeldahl digests (Hg catalyst) are reacted with alkaline salicylate in the presence of hypochlorite and sodium nitroprusside (Digestion required)	EPA-125-A	0.03 mg N/L (Range: 0.1 to 4.0 mg N/L)	EPA 351.2, version 2 (1993)
		EPA-110-A	0.2 mg N/L (Range: 0.5 to 24 mg N/L)	
NITROGEN, Total Kjeldahl (TKN)	Kjeldahl digests (Cu catalyst) are reacted with alkaline salicylate in the presence of hypochlorite and sodium nitroprusside (Digestion required)	EPA-111-A	0.035 mg N/L (Range: 0.1 to 4.0 mg N/L)	EPA 351.2, version 2 (1993)
		EPA-136-A	0.15 mg N/L (Range: 0.4 to 24 mg N/L)	
NITRATE + NITRITE	Cadmium coil reduction followed by sulfanilamide reaction in the presence of N-(1-naphthylethylenediamine) dihydrochloride	EPA-127-A	0.003 mg N/L (Range: 0.012 to 2.0 mg N/L)	EPA 353.2 Std. Methods 4500-NO ₃ F (18 th , 19 th , 20 th)
		EPA-126-A	0.006 mg N/L (Range: 0.03 to 4.5 mg N/L)	
		EPA-114-A	0.03 mg N/L (Range: 0.25 to 15 mg N/L)	
NITRATE + NITRITE	Cadmium coil reduction followed by sulfanilamide reaction in the presence of N-(1-naphthylethylenediamine) dihydrochloride (Imidazole buffer used)	EPA-132-A	0.004 mg N/L (Range: 0.012 to 2.0 mg N/L)	N/A
NITRITE	Sulfanilamide reaction in the presence of N-(1-naphthylethylenediamine) dihydrochloride	EPA-115-A	0.0025 mg N/L (Range: 0.015 to 1.2 mg N/L)	EPA 353.2 Std. Methods 4500-NO ₃ F (18 th , 19 th , 20 th)
		EPA-137-A	0.0006 mg N/L (Range: 0.002 to 0.2 mg N/L)	
NITRITE	Sulfanilamide reaction in the presence of N-(1-naphthylethylenediamine) dihydrochloride	EPA-116-A	0.0005 mg N/L (Range: 0.002 to 0.24 mg N/L)	EPA 354.1 Std. Methods 4500-NO ₂ B (18 th , 19 th , 20 th)
PHENOLICS	Sample distillates are reacted with alkaline ferricyanide and 4-aminoantipyrine (Manual distillation required)	EPA-117-A	0.003 mg/L (Range: 0.01 to 0.4 mg phenol/L)	EPA 420.4
PHOSPHATE, Ortho	Acidic molybdate/antimony with ascorbic acid reduction (phosphomolybdenum blue)	EPA-118-A	0.0015 mg P/L (Range: 0.005 to 1.0 mg P/L)	EPA 365.1 Std. Methods 4500-P F (18 th , 19 th , 20 th)
		EPA-128-A	0.005 mg P/L (Range: 0.32 to 20 mg P/L)	
PHOSPHORUS, Total (TP)	Acidic molybdate/antimony with ascorbic acid reduction (Manual persulfate digestion required)	EPA-119-A	0.002 mg P/L (Range: 0.01 to 1.0 mg P/L)	EPA 365.1 Std. Methods 4500-P B, F (18 th , 19 th , 20 th)
		EPA-134-A	0.007 mg P/L (Range: 0.063 to 5.0 mg P/L)	

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ANALYTE	METHOD DESCRIPTION	METHOD NUMBER	METHOD DETECTION LIMIT	EQUIVALENCE
PHOSPHORUS, Total Kjeldahl (TKP)	Kjeldahl digests (Hg catalyst) are reacted with acidic molybdate/antimony with ascorbic acid reduction	EPA-120-A	0.007 mg P/L (Range: 0.04 to 3.2 mg P/L)	EPA 365.4
PHOSPHORUS, Total Kjeldahl (TKP)	Kjeldahl digests (Cu catalyst) are reacted with acidic molybdate/antimony with ascorbic acid reduction. Method range depends on digestion protocol	EPA-135-A	0.009 mg P/L (Range: 0.04 to 3.2 mg P/L)	N/A
		EPA-138-A	TBD mg P/L (Range: 0.05 to 3.0 mg P/L)	
SILICA (Reactive silica)	Acidic molybdate, no reduction (molybdo-silicic acid)	EPA-121-A	0.1 mg/L (Range: 0.25 to 25 mg/L)	Std. Methods 4500-SiO ₂ C (20 th)
SILICA (Reactive silica)	Acidic molybdate with ANSA reduction (silico-molybdenum blue)	EPA-122-A	0.025 mg/L (Range: 0.1 to 10 mg/L)	Std. Methods 4500-SiO ₂ D (20 th)
SULFATE	Barium chloride turbidimetric method	EPA-123-A	1.0 mg/L (Range: 5 to 40 mg/L)	ASTM D516-90, 02

SEAL Analytical is continually developing methods. Please note that others may exist.

If you do not see your chosen method on this list, please consult your SEAL Analytical Technical Support Team at:

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ENVIRONMENTAL METHODS LIST – UKAS Rev 7



Method Detection Limits are calculated using NS30 protocol (WRc UK)

ANALYTE	METHOD DESCRIPTION	METHOD NUMBER	METHOD DETECTION LIMIT	EQUIVALENCE
ALUMINIUM	Pyrocatechol violet [α, α -bis(3,4-dihydroxyphenyl) toluene-2, α -sultone] reaction	UKAS-509-A	0.011 mg Al/L (Range: 0.025 to 1.0 mg Al/L)	UK Blue Book Method
AMMONIA	Salicylate method with hypochlorite and sodium nitroprusside (indophenol blue)	UKAS-500-A	0.02 mg N/L (Range: 0.1 to 1.0 mg N/L)	UK Blue Book Method
		UKAS-501-A	0.16 mg N/L (Range: 2.0 to 10 mg N/L)	
		UKAS-502-A	0.32 mg N/L (Range: 10 to 50 mg N/L)	
AMMONIA	Salicylate method with hypochlorite and sodium nitroprusside (indophenol blue) This is a brackish method.	UKAS-503-A	0.01 mg N/L (Range: 0.025 to 0.5 mg/L)*	UK Blue Book Method
CHLORIDE	Mercuric TPTZ reaction	UKAS-510-A	0.67 mg Cl/L (Range: 10 to 100 mg Cl/L)	UK Blue Book Method
		UKAS-511-A	2.69 mg Cl/L (Range: 50 to 500 mg Cl/L)	
IRON (II)	Acidic 1,10-phenanthroline reaction	UKAS-504-A	0.004 mg Fe(II)/L (Range: 0.04 to 4.0 mg/L)*	UK Blue Book Method
IRON - TOTAL	Reduction of ferric iron followed by acidic 1,10-phenanthroline reaction	UKAS-507-A	0.008 mg Fe/L (Range: 0.04 – 4.0 mg Fe/L)*	UK Blue Book Method
NITRITE	Sulphanilimide reaction in the presence of N-(1-naphthylethylenediamine) dihydrochloride	UKAS-512-A	0.0013 mg N/L (Range: 0.01 to 0.1 mg N/L)	UK Blue Book Method
		UKAS-513-A	0.0032 mg N/L (Range: 0.2 to 2.0 mg N/L)	
NITRATE + NITRITE	Hydrazine reduction followed by sulphanilamide reaction in the presence of N-(1-naphthylethylenediamine) dihydrochloride	UKAS-505-A	0.14 mg N/L (Range: up to 20 mg N/L)	UK Blue Book Method
		UKAS-506-A	0.38 mg N/L (Range: up to 50 mg N/L)	

* Method detection limit calculated using USEPA procedure 40 CFR, Part 136, Appendix B

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Method Detection Limits are calculated using NS30 protocol (WRc UK)

ANALYTE	METHOD DESCRIPTION	METHOD NUMBER	METHOD DETECTION LIMIT	EQUIVALENCE
SILICA	Acidic molybdate with reduction (silicomolybdenum blue)	UKAS-514-A	0.002 mg Si/L (Range: 0.025 to 0.5 mg Si/L)*	UK Blue Book Method
SULPHATE	Barium chloride turbidimetric method	UKAS-515-A	2.4 mg SO ₄ /L (Range: 10 to 100 mg SO ₄ /L)	UK Blue Book Method

* Method detection limit calculated using USEPA procedure 40 CFR, Part 136, Appendix B

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