

SIMPLICITY METHODS

The Simplicity Discrete Analyzer performs several manual and automated colorimetric methods. Chinchilla Scientific has a powerful applications team which has developed a comprehensive list of USEPA approved methods. Our methods follow the strict guidelines as required by the USEPA, Standard Methods, AOAC, and ISO standards. Most Simplicity methods can be adjusted to accommodate various ranges and matrices not included in the standard list.

Below is a partial list of different parameters that can be measured.

USEPA Method	Method No.
Alkalinity	310.2
Aluminum	
Ammonia	350.1 Rev. 2
Chloride	4500 Cl-C
Chlorine	
Chromium VI	3500 Cr-B
Cyanide	335.4 Rev. 1
Fluoride	4500 F-E
Hardness	130.1
Iron	
Manganese	
Nitrate	4500 NO3-H, 353.1, 353.2 Rev. 2
Nitrate, Chinchilla Easy (1 – Reagent)*	Final Method Update Rule
Nitrite	353.2 Rev. 2
Nitrogen, Total Kjeldahl	351.2 Rev. 2
Phenol	402.2
Phosphate, Ortho	365.1 Rev 2
Phosphorus, Total Kjeldahl	365.4
Phosphorus, Total (Persulfate digestion)	365.1 Rev. 2
Silicate	I-2700-85
Sulfate	ASTM D516-02
Zinc	

USEPA APPROVED 300 SERIES AND 3500 & 4500 STANDARD METHODS 20TH EDITION

*Note: May 18, 2012 Final Method Update Rule lists Chinchilla Scientific Easy (1- Reagent) Nitrate Method as an approved method for nitrate, and nitrite combined nitrate nitrite analysis under 40 CFR Part 136.3. The USEPA determined that the method meets all requirements at 40 CFR Part 136 for measurement of nitrate and nitrite singly or combined in water and wastewater.

The method also received approval on August 3, 2009 (Federal Register / Vol. 74, No. 147 / Rules and Regulations) for drinking water compliance monitoring. The USEPA determined that the methods is "equally effective" as current Safe Water Drinking Act (SWDA) methods for nitrate. The new method meets all requirements at 40 CFR Part 141 for measurement of nitrate and nitrite singly or combined in drinking water.

SIMPLICITY DISCRETE ANALYZER METHOD DETECTION LIMITS

Inorganic Test	EPA Waste Water Method	Range	MDL / PQL
Alkalinity	310.2	5 – 100 mg/L	2.5 / 5.0 mg/L
Ammonia, as N-NH ₃	350.1 Rev. 2	0.010 – 5.0 mg/L 0.005-0.1 mg/L	0.0010 / 0.010 mg/L 0.001 / 0.005 mg/L
Chemical Oxygen Demand (COD)	410.4 Rev. 2	5.0 – 1000 mg/L	3.0 / 5.0 mg/L
Chloride as Cl ⁻	SM 20 4500 Cl E	0.5 – 200 mg/L	0.2 / 0.50 mg/L
Chromium VI	SM 20 3500 Cr B	0.010 – 1.0 mg/L	0.003 / 0.010 mg/L
Cyanide – Post Distillation	335.4 Rev. 1	0.0030 mg/L – 5.0 mg/L	0.0010 / 0.0030 mg/L
NO ₂ +NO ₃ as N-NO ₂	353.2 Rev. 2	0.10 – 10.0 mg/L 0.012 – 2.0 mg/L	0.040 / 0.10 mg/L 0.003 / 0.012 mg/L
NO ₂ +NO ₃ as N-NO ₂ "Green Nitrate"	Easy (1-Reagent) Nitrate "Green" Nitrate	0.050 – 10.0 mg/L 0.005 – 0.150 mg/L 0.50 – 50.0 mg/L	0.010 / 0.050 mg/L 0.001 / 0.005 mg/L 0.20 / 0.50 mg/L
NO ₂ as N-NO ₂	353.2 Rev. 2 SM 20 4500 B	0.005 – 1.0 mg/L 0.002 – 0.24 mg/L	0.0015 / 0.005 mg/L 0.0005 / 0.002 mg/L
Ortho-Phosphate as P-PO ₄	365.1 Rev. 2	0.010 – 5.0 mg/L	0.005 / 0.010 mg/L
Total Phosphate Post digestion	365.1 Rev. 2 365.4	0.01 – 20.0 mg/L	0.005 / 0.01 mg/L
Phenols	420.1	5 – 500 µg/L	1.0 / 5 µg/L
Silica as SiO ₂	I-2700-85	0.10 – 10 mg/L	0.025 / 0.10 mg/L
Sulfate	ASTM D516-02	1 – 40 mg/L	2.0 / 4.0 mg/L
T.K.N. Post digestion	351.2 Rev. 2	0.10 – 20 mg/L 0.01- 0.50 mg/L	0.05 / 0.10 mg/L 0.007 / 0.014 mg/L