

# Hach EPA Compliant Methods

## EPA-Approved Methods

The EPA has evaluated and approved new technological methods developed by Hach Company. All EPA-Approved methods are cited in the Federal Register and compiled in the Code of Federal Regulations at 40 CFR 136 and CFR 141.

## EPA-Accepted Methods

The EPA has reviewed Hach methods and accepted them for use in compliance monitoring. These methods are defined by EPA as Acceptable versions of previously approved methods. These methods are generally not published in the Federal Register or in the Code of Federal Regulations. A facsimile of the EPA- Acceptance letter is available upon request.

## Hach Equivalent Methods

All EPA-Approved methods have specification criteria built into their procedural steps. When an approved or accepted EPA method has been packaged by Hach from the EPA reference method as a test method that meets or exceeds these specification criteria, these methods are deemed to be equivalent for use in EPA compliance monitoring (40 CFR 136.6). EPA does not normally issue equivalence letters of packaged reference methods. Hach maintains the formulation, procedure, and data demonstrating equivalency and is available upon request.

## Hach Approved Methods

These methods may be used for compliance monitoring. They have either obtained an EPA Approval or Acceptance letter, or the method is a packaged product that follows an EPA Reference method and is deemed Equivalent by Hach. With any method used for compliance reporting, always consult with your local regulatory authority.



<b>Analyte</b>	<b>Sample Matrix†</b>	<b>Hach Method</b>	<b>Approval Type</b>	<b>Reference Method</b>
Acidity, as CaCO <sub>3</sub>	WW	8010	Accepted	SM 2310 B(4a)
Acidity, Methyl Orange, Digital Titration	WW	8201	Equivalent	SM 2310 B(4a)
Acidity, Phenolphthalein, Digital Titration	WW	8202	Equivalent	SM 2310 B(4a)
Alkalinity, Digital Titration	WW	8203	Equivalent	SM 2320 B
Alkalinity, Titration	DW	8221	Equivalent	SM 2320 B
Ammonia as Nitrogen	WW	TNT830	Equivalent	EPA 350.1, SM 4500-NH <sub>3</sub> G or H
Ammonia as Nitrogen	WW	TNT831	Equivalent	EPA 350.1, SM 4500-NH <sub>3</sub> G or H
Ammonia as Nitrogen	WW	TNT832	Equivalent	EPA 350.1, SM 4500-NH <sub>3</sub> G or H
Ammonia Nitrogen, Electrode	WW	10001	Equivalent	SM 4500-NH <sub>3</sub> D, E, F, or G
Ammonia Nitrogen, Known Addition, Electrode	WW	10002	Equivalent	SM 4500-NH <sub>3</sub> D, E, F, or G
Ammonia, as Nitrogen	WW	8038	Accepted	SM 4500-NH <sub>3</sub> C
Arsenic, Total	WW	8013	Accepted	SM 3500-As B or C
BOD	WW	8043	Accepted	SM 5210 B
Chemical Oxygen Demand	WW	8231	Accepted	EPA 410.3 or SM 5220 C
Chemical Oxygen Demand	WW	TNT821	Equivalent	EPA 410.3 or SM 5220 C
Chemical Oxygen Demand	WW	TNT822	Equivalent	EPA 410.3 or SM 5220 C
Chloride, Mercuric Nitrate	WW	8206	Accepted	SM 4500-Cl C
Chloride, Mercuric Nitrate, Digital Titration	WW	8206	Accepted	SM 4500-Cl C
Chloride, Silver Nitrate	WW	8225	Accepted	SM 4500-Cl B
Chlorine, Free	DW	8021	Accepted	SM 4500-CL G
Chlorine, Free Amperometric Titration	DW	8334	Equivalent	SM 4500-CL D
Chlorine, Free Amperometric Titration	WW	8334	Equivalent	SM 4500-CL D
Chlorine, Total Amperometric Forward Titration	DW	10126	Equivalent	SM 4500-CL D

†DW = Drinking Water; SS = Sewage Sludge; SW = Surface Water; WW = Wastewater

Continued on next page.



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Analyte	Sample Matrix†	Hach Method	Approval Type	Reference Method
Chlorine, Total Residual	WW	8167	Accepted	SM 4500-Cl G
Chlorine, Total Residual	DW	8167	Accepted	SM 4500-Cl G
Chlorine, Total Residual	DW	8168	Accepted	SM 4500-Cl D
Chlorine, Total Residual	WW	8168	Accepted	SM 4500-Cl D
Chlorine, Total Residual, Amperometric Back Titration	WW	10025	Accepted	SM 4500-Cl C
Chlorine, Total Residual, DPD	WW	10014	Accepted	SM 4500-CL G
Chlorine, Total, DPD	DW	8370	Accepted	SM 4500-CL G
Chromium VI	WW	TNT854	Equivalent	SM 3500-Cr D
Chromium VI, Dissolved	WW	8023	Accepted	SM 3500-Cr B or D
Coliform, Fecal, EC Medium with/MUG	DW	10018	Equivalent	SM 9221 D
Coliform, Total and <i>E. coli</i> , m-ColiBlue24	DW	8433	Approved	40 CFR 141.21, page 349
Coliforms, <i>E. coli</i> , m-TEC	SW	8367	Equivalent	EPA 1103.1
Coliforms, Fecal and Total, MPN, A1 Medium	DW	8368	Equivalent	SM 9221 B/D
Coliforms, P/A	DW	8319	Equivalent	SM 9221 D
Color, APHA Pt-CO	DW	8025	Equivalent	SM 2120 B
Conductivity	DW	8160	Accepted	SM 2510 B
Copper, Bicinchoinate Procedure	WW	8506	Approved	SM 3500-CU C or E
<i>E. coli</i> , m-ColiBlue24	WW	10029	Approved	Federal Register March 26, 2007
<i>E. coli</i> , m-ColiBlue24, enumeration	SW	10029	Approved	68 FR 43274, July 21, 2003
<i>E. coli</i> , m-ColiBlue24, P/A	DW	10029	Approved	40 CFR 141.21, page 349
Fecal Coliform, LT Broth and EC	SW	8001A	Accepted	SM 9221 E
Fecal Coliform, LT Broth and EC	SS	8001A	Accepted	SM 9221 E
Fecal Coliform, Sludge, MPN, A1 Medium	WW	10028	Equivalent	SM 9221 D/E
Fecal Coliform, Sludge, MPN, LTB/EC Medium	WW	10027	Equivalent	SM 9221 D/E
Fluoride	DW	8029	Accepted	SM 4500-F C
Fluoride, Electrode	DW	8323	Equivalent	SM 4500-F C
Fluoride, Electrode	WW	8323	Equivalent	SM 4500-F C
Fluoride, SPADNS	WW	8029	Accepted	SM 4500-F D
Fluoride, SPADNS	DW	8029	Accepted	SM 4500-F D
Fluoride, SPADNS2, Arsenic Free	WW	10225	Equivalent	SM 4500-F D
Fluoride, SPADNS2, Arsenic Free	DW	10225	Equivalent	SM 4500-F D
Fluoride, Total	WW	8029	Accepted	SM 4500-F-B or C
Hardness, Calcium, Digital Titration	WW	8204	Equivalent	SM 3500-Ca D
Hardness, Calcium, Titration	WW	8222	Equivalent	SM 3500-Ca D
Hardness, Calcium, Titration	DW	8222	Equivalent	SM 3500-Ca D
Hardness, Total	WW	8226	Accepted	SM 2340 B or C
Hardness, Total, Digital Titration	WW	8213	Equivalent	SM 2340 B or C
Hydrogen Ion, pH	WW	8156	Accepted	SM 4500-H+ B
Lead, Total	WW	8033	Accepted	SM 3500-Pb B or D
Manganese	WW	8034	Approved	40 CFR 136
Nickel, Total	WW	8037	Accepted	SM 3500-Ni D

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Nitrate, ISE	DW	8324	Accepted	SM 4500-NO <sub>3</sub> D
Nitrite as Nitrogen	WW	TNT839	Equivalent	SM 4500-NO <sub>2</sub> B
Oil and Grease, Gravimetric	WW	10056	Equivalent	EPA 1664 or SM 5520 B
Oxygen, Dissolved, Luminescence	WW	10360	Approved*	ASTM D888-05 or Hach Method 10360
Oxygen, Dissolved, Polarographic	WW	8157	Accepted	SM 4500-O G
Oxygen, Dissolved, Winkler	WW	8229	Accepted	SM 4500-O C
Ozone, Colorimetric	DW	8311	Equivalent	SM 4500-O <sub>3</sub> B
pH	DW	8156	Accepted	EPA 151.1, 2; SM 4500-H+ B
Phenols, 4AAP Procedure	WW	8047	Accepted	EPA 420.1
Phosphate, Ortho	WW	8048	Accepted	SM 4500-P E
Phosphate, Ortho	WW	TNT843	Equivalent	SM 4500-P E
Phosphate, Ortho	WW	TNT844	Equivalent	SM 4500-P E
Phosphate, Ortho	WW	TNT845	Equivalent	SM 4500-P E
Phosphorus, Total	WW	TNT843	Equivalent	SM 4500-P E
Phosphorus, Total	WW	TNT844	Equivalent	SM 4500-P E
Phosphorus, Total	WW	TNT845	Equivalent	SM 4500-P E
Silica, Colorimetric	DW	8186	Equivalent	SM 4500-Si E; SM 4500-SiO <sub>2</sub> E
Solids, Dissolved	WW	8277	Equivalent	SM 2540 C
Solids, Filterable	WW	8163	Equivalent	SM 2540 C
Solids, Settleable	WW	8165	Equivalent	SM 2540 F
Solids, Total	WW	8271	Equivalent	SM 2540 B
Solids, Total Non-filterable	WW	8158	Accepted	SM 2540 D
Solids, Volatile, Non-filterable	WW	8164	Equivalent	EPA 160.4
Specific Conductance	WW	8160	Accepted	EPA 120.1; SM 2510 B
Sulfate as SO <sub>4</sub>	WW	8051	Accepted	ASTM D516-90, O <sub>2</sub>
Sulfide as S	WW	8131	Accepted	SM 4500-S <sub>2</sub> E or F
Sulfite as SO <sub>3</sub>	WW	8071	Accepted	SM 4500-SO <sub>3</sub> B
Sulfite, Digital Titration	WW	8216	Equivalent	SM 4500-SO <sub>3</sub> B
Total and Fecal Coliforms, m-Endo	DW	8074	Equivalent	SM 9222 A/D
Total and Fecal Coliforms, m-Endo	SW	8074	Equivalent	SM 9222 A/D
Total Coliform, LT Broth and BGB Broth	WW	8001	Accepted	SM 9221 B
Turbidity	DW	8195	Approved	40 CFR 141
Turbidity	DW	10133	Approved	40 CFR 141
Turbidity	DW	GLI	Approved	40 CFR 141
Zinc	WW	8009	Approved	40 CFR 136

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\*Regional-wide approval in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, North Carolina, South Carolina, and Tennessee) and EPA Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, and Texas). State-wide approval in Minnesota and Wyoming. All other states require a letter from respective EPA Regional Administrators or State Regulatory.



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