

accessed and downloaded directly online at [www.epa.gov/safewater/methods/sourcalt.html](http://www.epa.gov/safewater/methods/sourcalt.html). EPA Method 415.3, Revision 1.0, "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water," USEPA, June 2003, is available from: Chemical Exposure Research Branch, Microbiological & Chemical Exposure Assessment Research Division, National Exposure Research Laboratory, U.S. Environmental Protection Agency, Cincinnati, OH 45268, Fax Number 513-569-7757, Phone number: 513-569-7586. Standard Methods 4500-Cl D, 4500-Cl E, 4500-Cl F, 4500-Cl G, 4500-Cl H, 4500-Cl I, 4500-ClO<sub>2</sub> E, 6251 B, and 5910 B shall be followed in accordance with *Standard Methods for the Examination of Water and Wastewater, 19th or 20th Editions or the On-Line Version*, American Public

Health Association, 1995, 1998, and 2003, respectively. The cited methods published in any of these three editions may be used. Standard Method 4500-ClO<sub>2</sub> D shall be followed in accordance with *Standard Methods for the Examination of Water and Wastewater, 19th or 20th Editions*, American Public Health Association, 1995 and 1998, respectively. Standard Methods 5310 B, 5310 C, and 5310 D shall be followed in accordance with the *Supplement to the 19th Edition of Standard Methods for the Examination of Water and Wastewater*, or the *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, or the *On-Line Version*, American Public Health Association, 1995, 1998, and 2003, respectively. The cited methods published in any of these editions may be used. Copies may be obtained from the American Public Health

Association, 1015 Fifteenth Street, NW., Washington, DC 20005. ASTM Method D 1253-86 shall be followed in accordance with the *Annual Book of ASTM Standards*, Volume 11.01, American Society for Testing and Materials, 1996 or any year containing the cited version of the method may be used. ASTM D 6581-00 shall be followed in accordance with the *Annual Book of ASTM Standards*, Volume 11.01, American Society for Testing and Materials, 2001 or any year containing the cited version of the method may be used; copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

(b) *Disinfection byproducts.* (1) Systems must measure disinfection byproducts by the methods (as modified by the footnotes) listed in the following table:

#### APPROVED METHODS FOR DISINFECTION BYPRODUCT COMPLIANCE MONITORING

Contaminant and methodology <sup>1</sup>	EPA method	Standard Method <sup>2</sup>	ASTM Method <sup>3</sup>
TTHM:			
P&T/GC/EICD & PID .....	502.2 <sup>4</sup>		
P&T/GC/MS .....	524.2		
LLE/GC/ECD .....	551.1		
HAA5:			
LLE (diazomethane)/GC/ECD .....		6251 B <sup>5</sup> .	
SPE (acidic methanol)/GC/ECD .....	552.1 <sup>5</sup>		
LLE (acidic methanol)/GC/ECD .....	552.2, 552.3.		
Bromate:			
Ion chromatography .....	300.1	.....	D 6581-00
Ion chromatography & post column reaction .....	317.0 Rev 2.0 <sup>6</sup> , 326.0 <sup>6</sup>		
IC/ICP-MS .....	321.8 <sup>6, 7</sup>		
Chlorite:			
Amperometric titration .....		4500-ClO <sub>2</sub> E <sup>8</sup> .	
Spectrophotometry .....	327.0 <sup>8</sup> .		
Ion chromatography .....	300.0, 300.1, 317.0 Rev. 2.0, 326.0	.....	D 6581-00

<sup>1</sup> P&T = purge and trap; GC = gas chromatography; EICD = electrolytic conductivity detector; PID = photoionization detector; MS = mass spectrometer; LLE = liquid/liquid extraction; ECD = electron capture detector; SPE = solid phase extraction; IC = ion chromatography; ICP-MS = inductively coupled plasma/mass spectrometer

<sup>2</sup> 19th or 20th editions or the On-Line Version of *Standard Methods for the Examination of Water and Wastewater*, 1995, 1998, and 2003, respectively, American Public Health Association; any of these editions may be used.

<sup>3</sup> *Annual Book of ASTM Standards*, 2001 or any year containing the cited version of the method, Vol 11.01.

<sup>4</sup> If TTHMs are the only analytes being measured in the sample, then a PID is not required.

<sup>5</sup> The samples must be extracted within 14 days of sample collection.

<sup>6</sup> Ion chromatography & post column reaction or IC/ICP-MS must be used for monitoring of bromate for purposes of demonstrating eligibility of reduced monitoring, as prescribed in § 141.132(b)(3)(ii).

<sup>7</sup> Samples must be preserved at the time of sampling with 50 mg ethylenediamine (EDA)/L of sample and must be analyzed within 28 days.

<sup>8</sup> Amperometric titration or spectrophotometry may be used for routine daily monitoring of chlorite at the entrance to the distribution system, as prescribed in § 141.132(b)(2)(i)(A). Ion chromatography must be used for routine monthly monitoring of chlorite and additional monitoring of chlorite in the distribution system, as prescribed in § 141.132(b)(2)(i)(B) and (b)(2)(ii).

(2) Analysis under this section for disinfection byproducts must be conducted by laboratories that have received certification by EPA or the State, except as specified under paragraph (b)(3) of this section. To receive certification to conduct analyses for the DBP contaminants in §§ 141.64,

141.135, and subparts U and V of this part, the laboratory must:

(i) Analyze Performance Evaluation (PE) samples that are acceptable to EPA or the State at least once during each consecutive 12 month period by each method for which the laboratory desires certification.

(ii) Achieve quantitative results on the PE sample analyses that are within the following acceptance limits which become effective [date 60 days after date of final rule publication] for purposes of certification: