



## **Memorandum**

**To:** South Carolina Certified Laboratories  
**From:** Office of Environmental Laboratory Certification, SCDHEC  
**Date:** October 23, 2017  
**Re:** 2017 Clean Water Act Methods Update Rule

The US EPA issued a final rule on August 28, 2017, to approve new and revised analytical methods for the analysis of wastewater. This rule, "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act; Analysis and Sampling Procedures" applies to 40 CFR Part 136.

As stated in the Summary of the rule: "This rule modifies the testing procedures approved for analysis and sampling under the Clean Water Act. The changes adopted in this final rule fall into the following categories: New and revised EPA methods (including new and/or revised methods published by voluntary consensus standard bodies (VCSB), such as ASTM International and the Standard Methods Committee); updated versions of currently approved methods; methods reviewed under the alternate test procedures (ATP) program; clarifications to the procedures for EPA approval of nationwide and limited use ATPs; and amendments to the procedure for determination of the method detection limit..."

The rule went into effect on September 27, 2017. The rule can be viewed using the following link:

<https://www.federalregister.gov/documents/2017/08/28/2017-17271/clean-water-act-methods-update-rule-for-the-analysis-of-effluent>

The attached document outlines some of the major changes resulting from the 2017 Methods Update Rule. **Our Office is requesting all laboratories affected by this rule have the attached changes in place by January 31, 2018. This includes updating standard operating procedures (SOPs) and implementing any required changes in method procedures, preservation requirements, and method detection limits (MDLs). Updated method revisions will need to be reported on 2018 Proficiency Testing (PT) studies.** Laboratories will not be required to submit updated SOPs at this time, but have them available in the laboratory for review.

**Please note that the MDL changes will also apply to laboratories certified for Drinking Water and Solid and Hazardous Waste parameters.** An EPA memo is also attached which addresses drinking water requirements for the MDL.

Any laboratory certificates requiring updates will be mailed beginning in January 2018. The "Application for Environmental Laboratory Certification" has been updated with all changes. Any questions regarding the Methods Update Rule can be directed to [labcerthelp@dhec.sc.gov](mailto:labcerthelp@dhec.sc.gov) or (803) 896-0970.

cc: Sandra Flemming, Assistant Bureau Chief  
Bureau of Environmental Health Services

Enclosures

### **Method Detection Limit (MDL)**

EPA has revised the procedure for the determination of the MDL to address laboratory blank contamination and to account more for variability within the laboratory. Laboratories are now required to evaluate the MDL to account for background levels of contamination. For an MDL that represents multiple instruments, laboratories are required to calculate the MDL by analyzing MDL samples and method blanks on all the instruments. Furthermore, laboratories are required to analyze MDL samples on at least a quarterly basis to determine if the MDL has significantly drifted over time. The ongoing quarterly MDL samples and routine method blanks will be used to calculate the MDL annually. For a complete description of the new MDL procedure, refer to 40 CFR Part 136 (August 28, 2017), Appendix B Revision 2.

For laboratories certified for SW-846 methods under Solid and Hazardous Waste, MDL determinations will remain a certification requirement in addition to the LLOQ requirements in the updated methods. MDLs will still be used by various SCDHEC program areas and may be specified in quality assurance project plans (QAPP) and sampling and analysis plans. The MDL studies must be performed according to 40 CFR Part 136, Appendix B Revision 2.

For laboratories certified for drinking water, EPA's Office of Ground Water and Drinking Water issued a memo (October 2017) regarding drinking water MDL requirements. A copy of this memo is included. To maintain consistency throughout all matrices, the new MDL procedure will be required for drinking water methods for which an MDL is a part of the required quality control.

### **EPA Methods 608.3, 624.1, and 625.1**

The MUR includes three newly revised organic methods. These methods are 608.3, 624.1, and 625.1 which will replace 608, 624, and 625, respectively. The new methods include updated terminology and guidance for quality control samples (i.e., LCS, MS/MSD, etc) as well as updated QC tables. Alternate initial calibration acceptance criteria have also been added to section 7.0 of each method. Additional guidance has been provided for select ion monitoring (SIM) analysis for the GC/MS methods. Calibration verifications and tune checks are now required every 12 hours per EPA Methods 624.1 and 625.1. Solid phase extraction (SPE) technique is now available for EPA 608.3 and 625.1. Laboratories must update method references and address any required process changes in their standard operating procedures (SOPs) for each method.

### **Changes in Volatile Sample Preservation**

The sample preservation requirements for Purgeable Halocarbons and 2-Chloroethylvinyl ether have changed. 2-Chloroethylvinyl ether has been removed from the "Purgeable Halocarbons" list in the preservation Table II. Table II now states that Purgeable Halocarbons must be preserved with HCl to a pH 2. Samples to be analyzed for 2-Chloroethylvinyl ether must not be acid preserved. Laboratories will need to collect a separate unpreserved sample vial when 2-Chloroethylvinyl ether is an analyte of interest. The preservation requirements for Acrolein, Acrylonitrile, and Purgeable Aromatic Hydrocarbons have not changed.

### **Microbiology Method Changes**

The Colilert-18® ATP (2010) method has now been incorporated into the Clean Water Act. "ATP" will be removed from the method title on laboratory certificates. This method is approved only for the enumeration of fecal coliforms in wastewater effluent.

SM9230 D-2007 is now approved for *Enterococcus* analyses. This method is equivalent to Enterolert®. In order to be consistent with current laboratory certification listing protocols for other IDEXX methods, we will be updating the certificates for laboratories currently certified for Enterolert® under the Clean Water Act. The certificates will be updated to show the method as SM9230D-2007, instead of Enterolert®. The laboratories should update their SOPs to include the new method reference.

### **Whole Effluent Toxicity Errata Clarification**

EPA has added a statement that reads “Conductivity, alkalinity, and hardness are measured in each new sample and in the control before they are dispensed to the test chamber.” We requested further clarification from EPA regarding this statement. EPA has further clarified this statement for us as listed below:

*If a portion of the bulk sample is collected for conductivity, alkalinity and hardness analyses before the bulk sample is dispensed into the test chambers, then those analytical results represent the time before the sample is dispensed to the test chambers. It does not matter if the conductivity, alkalinity and hardness analyses happen after the start of the actual WET testing. The point is to have data for these water quality parameters to support the WET results.*

Therefore, the conductivity, alkalinity, and hardness samples must be aliquoted from the effluent sample container before dispensation of the effluent sample into the toxicity test chambers, but the chemistry tests on these aliquots can be performed after initiation of the toxicity test in question.

### **Summary of Method Revisions**

The following table outlines method revisions that will be updated on laboratory certificates in January 2018.

<b>Parameter</b>	<b>New Revision</b>	<b>Previous Revision</b>
Alkalinity	ASTM D1067-11	ASTM D1067-06
Color, Spectrophotometric	NCASI 71.01-TB803 (2000)	NCASI-TB253 (1971)
Color, ADMI	SM 2120 F-2011	SM 2120 E-1993
Cyanide Distillation	SM 4500 CN-B, C-2011	SM 4500 CN-C-2011
Sulfate	ASTM D516-11	ASTM D516-07
Fecal Coliform, MPN	Colilert -18® (2010)	Colilert-18® ATP (2010)
Total Coliform, MF	SM 9222 B-2006	SM 9222 B-1997
Fecal Coliform, MF	SM 9222 D-2006	SM 9222 D-1997
Enterococcus	SM 9230 D-2007	Enterolert®
Pesticides& PCBs	EPA 608.3 (2016)	EPA 608 (1984)
Pesticides& PCBs	EPA 608.3-RVE (2016)	EPA 608-RVE (1984)
Volatiles	EPA 624.1 (2016)	EPA 624 (1984)
Semi-Volatiles	EPA 625.1 (2016)	EPA 625 (1984)
Semi-Volatiles	EPA 625.1-RVE (2016)	EPA 625-RVE (1984)

Along with these method revision changes, there are some footnote changes to the tables. Some important footnote changes to note are:

- Footnote 21 regarding Fecal Coliform, MPN by Colilert -18® (2010):  
*Approved for enumeration of target organism in wastewater effluent.*
- Footnote 29 regarding Fecal Coliform, MPN by Colilert -18® (2010):  
*To use Colilert-18® to assay for fecal coliforms, the incubation temperature is 44.5 ± 0.2 °C, and a water bath incubator is used.*
- Footnote 30 Table IA regarding Fecal Coliform, MF by SM 9222 D-2007:  
*On a monthly basis, at least ten blue colonies from the medium must be verified using Lauryl Tryptose Broth and EC broth, followed by count adjustment based on these results; and representative non-blue colonies should be verified using Lauryl Tryptose Broth. Where possible, verifications should be done from randomized sample sources.*
- Footnote 78 regarding Color, ADMI by SM 2120 F-2011:  
*The pH adjusted sample is to be adjusted to 7.6 for NPDES reporting purposes.*