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FAX TRANSMITTAL SHEET

DATE: November 04, 2011

TO: Laboratory Director and QA Manager

FROM: Steven D. Baker, Office Chief
State Laboratory Services

Subject: Information Update #110

PAGES: 4 (including cover)

NOTE: If any of the pages are missing, please call (480) 284-6869 or (602) 364-0720.

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Leadership for a Healthy Arizona



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Information Update

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Update #110

1. Director Approved:

- A. Bromate by EPA 302.0 in Drinking Water**
- B. Additional compounds to Method TO15 list:**

In addition to the original 21 compounds that were added to TO15 target list the following 10 compounds were also added recently per ADEQ's request:

Methyl cyclohexane, n-octane, nonane, isopropyl benzene (cumene), n-propyl benzene, tert-butyl benzene, sec-butyl benzene, n-butyl benzene, naphthalene and ethanol.

Please see Information Update 105 for a list of original 21 compounds that were added at the website http://www.azdhs.gov/lab/license/tech/101_110/infoup105.pdf

The protocol for adding and getting licensed for additional compounds has changed from the instructions given in the Update 105; the new protocol is as follows:

If your lab is already licensed for TO15 method;

- 1) Perform IDOC, MDL and update SOP to include the additional compound(s) your lab would like to report for compliance testing;
- 2) Have the above documents available for the next onsite audit or if our Office requests a copy to be sent to us;
- 3) Perform proficiency sample if available;
- 4) Start reporting the additional compounds.

2. Alkalinity:

Since our office was unsure about the quality control requirements that were practicable to be enforced for the alkalinity test, we posed that question to the national assessor's group and also received comments from Arizona licensed labs. Based on the responses we received our Office will enforce the following requirements:

A blank, field or lab duplicates, LCS (purchased) and an annual PT; there will be no requirements for an MDL study.

3. Preservation of Phenol samples by EPA 420.1:

Clarification on the preservation by Lemuel Walker of EPA's Wastewater Program:

Method 420.1 is from the old MCAWW manual and is based on Standard Method 510 from the 14th Edition of Standard Methods (1975). Standard Method 510 stated: "Domestic and industrial waste-waters may contain such interferences as phenol decomposing bacteria, oxidizing and reducing substances and alkaline pH values. Biological degradation is inhibited by the addition of CuSO₄ to the sample. Acidification with H₃PO₄ assures the presence of copper ion and eliminates any chemical changes from the presence of strong alkaline conditions."

More recently, methods for analysis of specific phenolic compounds and other organic aromatic compounds were developed and it was determined that preservation to a pH of less than 2 was sufficient to inhibit biological degradation while also preventing any chemical changes resulting from the presence of strong alkaline conditions. As a result, the addition of copper sulfate was no longer necessary. For practical reasons, Table II was revised to specify that samples collected for determination and measurement of phenols were to be preserved by acidification to pH of less than 2 with H₂SO₄. The acid was changed from phosphoric acid to sulfuric acid in response to many complaints that it was burdensome to have to take phosphoric acid into the field to preserve samples collected for phenols in addition to the sulfuric acid that was specified for pH adjustment of samples to be measured for most of the inorganic parameters in Table 1B and the nitric acid that was specified for samples to be measured for the metals in Table 1B.

EPA Method 420.4, which is an automated method based on the same chemistry as Standard Method 510 and EPA Method 420.1, was written in 1993. In this method the preservation requirements state: "Samples must be preserved at time of collection with H₂SO₄ to a pH of <2 and cooled to 4°C. Similarly, Standard Method 5530 A (the phenols method found in the 21st Edition of Standard methods) specifies that samples are to be acidified with 2 ml of concentrated H₂SO₄.

Footnote 26 to Table II states: "Just prior to distillation, adjust the sulfuric-acid-preserved sample to pH 4 with 1 + 9 NaOH." and EPA Method 420.4 states: "Measure 500 mL sample into a beaker. Adjust the pH to approximately 4 with 1+9 NaOH (Section 7.9) or 1+9 H₂SO₄ (Section 7.10), and transfer to the distillation apparatus."

The addition of CuSO₄ prior to distillation is not necessary.

The MUR excerpt enclosed below explains that the sample collection, preservation and holding time requirements listed in Table II take precedence over what is in the method.

F. Proposed Revisions in Table II at 40 CFR 136.3(e) to Required Containers, Preservation Techniques, and Holding Times EPA is proposing revisions to Table II at 136.3(e) to clarify how to resolve conflicts between instructions in this table and instructions in an approved method or other source, and to amend some of the current requirements in Table II. 1. The introductory text to Table II at 136.3(e) specifies that the instructions in the table take precedence over other sources of this information. EPA publishes holding time and related instructions in Table II to provide a consistent set of instructions, and for other reasons. Not all methods contain complete instructions, and some otherwise equivalent methods (or methods for the same parameter) have conflicting instructions. For example, Table II instructions specify the 48 hour BOD holding time while some Part 136 methods recommend 24 hours. In this instance Table II instructions take precedence. EPA recognizes that there may be cases where new technologies or advancements in current technologies may produce approved methods with instructions for a specific parameter that differ from Table II instructions, and provide better results. Cyanide determinations and some automated methods may fall into this category.

Therefore, EPA is proposing to revise the text at 136.3(e) to allow a party to submit documentation to their permitting or other authority that supports use of an alternative approach. EPA is proposing to revise the introductory text to the table to read as follows: "Information in this table takes precedence over instructions provided in specific methods or elsewhere unless a party documents the acceptability of an alternative to the Table II instructions. The nature, timing and extent of the required documentation (i.e. how to apply and review as well as the amount of supporting data) are left to the discretion of the permitting authority (State Agency or EPA Region) or other authority and may rely on instructions, such as those provided for method modifications at 136.6." Thus, an alternate sample container, preservation and/or holding time may be considered at the discretion of the permitting authority or other authority.

Hope this is not too confusing!

Lem

4. Status on Methods Update Rule:

EPA anticipates the (2010 Proposed Methods Update Rule) final rule being published by the end of the year; latest by January 2012. EPA will replace 1664, Revision A to Revision B at that Rule making.

Method 1664, Revision B: n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, will be promulgated when MUR is finalized. The method can be accessed at the following website:

http://water.epa.gov/scitech/methods/cwa/upload/1664B-Oil_Grease.pdf

5. Please contact Prabha Acharya @ (480) 284-6869/(602) 364-0720 or acharyp@azdhs.gov for any technical or method related questions. The earlier Information Updates can be accessed @ <http://www.azdhs.gov/lab/license/tech/infoup.htm>