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RCRA TEST METHODS & QA ACTIVITIES

MEMORANDUM #24:

DATE: July 1988

SUBJECT: Notes on RCRA Methods and QA Activities

FROM: David Friedman, Chief  
Methods Section (WH-562B)

TO: Addressees

This memo will address the following topics:

Method 3500- Clarification on Surrogate Standard

Extraction System for PCBs in Soil

Good Laboratory Practices Work Group

Results on the recent Laboratory Proficiency Evaluation Samples

Test Method for Total Halogens in Used Oil

Contract Laboratory Program-Participation as a Surrogate for  
Laboratory Certification

Methods Section Staff Responsibilities

Call for Reviewers

Method 3500-Clarification on Surrogate Standard

We made an error in Method 3500 and a clarification is needed of the direction given on preparing the terphenyl-d14 surrogate standard described on page 2 of Memorandum No 23. The methanol specified as the dilution solvent is not appropriate. The revised directions are as follows:

- A. weight out 10 mg terphenyl-d14 into a small beaker (20-50ml) using an analytical balance.

- B. Add 5 to 10 ml of pure carbon disulfide until the terphenyl-d14 completely dissolves.
- C. Transfer this carbon disulfide solution to a 100 ml volumetric flask.
- D. Quantitatively transfer the residual carbon disulfide solution from the beaker to the volumetric flask by washing several times with methanol.
- E. Dilute to the line with methanol. Mix well.

#### Extraction System for PCBs in Soil

We have reviewed the data package submitted by Joseph Stewart of Oak Ridge National Laboratory in support of his request for use of SOXTEC extraction system, in place of the conventional Soxhlet extraction system (Method 3540), for preparation of PCB samples for method 8080 at ORNL. The PCB data generated from split samples, run concurrently, using the conventional Soxhlet and the SOXTEC extraction techniques for sample preparation, shows that these preparative techniques are equivalent, within allowable standard deviation limits. These data also demonstrate that Method 8080, utilizing either extraction technique, is appropriate for the analysis of PCB's in soil and clay matrices at the low ppm level. The SOXTEC system actually proved to be the superior technique when time constraints were considered, taking only 2 hours for sample preparation vs. 17 hours for Soxhlet.

From the submitted information, OSW believes that the SOXTEC extraction procedure is suitable for determining the PCBs in soil matrices. We recommend that where use of SW-846 methods is not mandated by the RCRA regulations, permit writers approve use of the SOXTEC extraction system for RCRA PCB soil analyses. OSWER is in the process of using the ORNL data to develop a general extraction procedure using the SOXTEC apparatus and after the method has received formal review it will be added to SW-846.

#### GLP Workgroup Meetings

The RCRA Good Laboratory Practices (GLP) taskgroup, (part of the QA Workgroup), has begun the process of developing GLPs for

the program. These practices are designed to apply to all laboratories developing data in support of the RCRA program. The second draft has been distributed to both the taskgroup and the full Workgroup for their review prior to the July 11th general workgroup meeting.

#### Test Methods for Total Halogens in Used Oil

The Federal Register Notice of November 29, 1985 (page 49189) recommended that ASTM D808-81 be used for total halogens (as chlorine) in used oil until a method is developed for inclusion in SW-846. On March 10, 1986 (page 8207) information in a Federal Register Notice confirmed that the ASTM method, cited previously, is inappropriate for measuring total halogens at levels of regulatory concern. The agency is working to address this problem and a package of proposed test methods for total halogens in used oil will be submitted for workgroup review next month.

Until these new methods have been reviewed and formally adopted, the Agency cannot give general approval for their use. Pending such approval, however, the Agency will accept, on a case-by-case basis, data using any technique, as long as adequate QA/QC data has been gathered to validate the results.

We believe, based on the data that has been collected so far, that several techniques will be suitable for determining total halogens in used oil at levels of regulatory concern. These include microcoulometry (using Dohrman instrument); Paar bomb combustion with any of the following finishes: mercuric nitrate titration, titrimetric silver nitrate, or ion chromatography; x-ray fluorescence for samples not containing water; and Dextsil's Color-D-Tech 1000 test kit for pass/fail determinations only.

For additional information, contact Barry Lesnik at 382-7459.

#### Use of Contract Laboratory Program Participation as a Surrogate for Laboratory Certification

The Contract Laboratory Program (CLP) provides standardized and specialized analytical services to support OSWER activities. Firm, fixed-price contracts are awarded competitively to the

lowest responsible bidders through the Government's Invitation for BID (IFB) process. Laboratories selected as contractors are monitored for adherence to quality control and administrative procedures and, as long as they receive a satisfactory rating, continue to receive analytical work according to EPA needs and the size of their contract. Laboratories not performing satisfactorily, while they still remain in the program, are cut off from further work.

Concerns have been raised by non-CLP laboratories that a number of EPA Regions and States are requiring that facilities conducting corrective action testing employ laboratories that are participating in OERR's CLP program in the erroneous belief

that CLP participation constitutes EPA certification. OSW frowns on this practice since CLP participation does not constitute certification and, more importantly, that for financial or other reasons, many of the nation's best testing laboratories have elected not to be CLP contractors.

#### Methods Section Staff Responsibilities

Many times questions come up dealing with specific methods or testing problems and people do not know who to call for assistance. While calls can always be directed to our general number (202/382-4671), I suggest contacting the subject matter specialists directly for fastest service. You will find the specialists responsible for the major testing and quality assurance subject areas listed below.

Subject	Name	Phone
SW-846	Charles Sellers	382-3282
Quality Assurance	Florence Richardson	382-4778
Inorganic Analysis	Charles Sellers	382-3282
Organic Analysis	Barry Lesnik	382-7459
Mobility Prediction (leachability volatility)	Gail Hansen	475-6722
Sampling	Florence Richardson	382-4778
Reactivity		
- Toxic Gas Generation	Gail Hansen	475-6722
- Explosivity	Florence Richardson	382-4778
Ignitability	Florence Richardson	382-4778
Corrosivity	Charles Sellers	382-3282

I want to emphasize that not only do we want to help answer your questions, but also to hear your ideas for new methods and testing ideas, problems that we need to work on, and any other suggestions or comments you may have to help us improve the program.

#### Call for Reviewers

ASTM and EPA's Office of Solid Waste have a need for qualified individuals to review papers presented at the OSWER Annual Solid Waste Testing and Quality Assurance Symposium and the D34 Symposia prior to publication in ASTM STPs. In order to assist us in this effort, we have established a data base of potential reviewers. If you would be willing to contribute a few hours annually to this review process, please complete the attached form and return it to me at the address below.

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Office of Solid Waste (SW-331)  
Washington, DC 20460

A short list of general topics is given. Please indicate those topics for which you have special expertise or interest. Additional information concerning your specific areas of expertise is also requested.