

9 pages

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10/07/03 11:22 AM

To: John Blouin/DC/USEPA/US@EPA, Rich
Leukroth/DC/USEPA/US@EPA
cc: David.Menotti@shawpittman.com
Subject: text to review during 1 pm Oct. 8 fluoropolymer incin testing
DraftingCommittee call

John and Rich,

Thank you for your guidance over the past few weeks on what is needed for the appendices to the planned ECA for fluoropolymers incineration testing. As we discussed, I have prepared a draft of the appendix dealing with what we are calling Phase I testing as well as some brief shell text to show how things fit together. While the shell text at the beginning of this document uses some of the structure from the example ECAs supplied by Rich, we understand that the actual ECA language will be prepared later. Again, this shell text is to help us convey to one another how the various aspects of this incineration testing program fit together as we have discussed on the phone.

We are providing this draft document to you as a pdf file and in WORD to facilitate mark-ups as you go thru it.

(See attached file: FP Incin Test Program draft 10-7-03.pdf) (See attached file: FP Incin Test Program draft 10-7-03.doc)

Dave and I look forward to our conference call on Wednesday afternoon October 8 at 1 pm. We look forward to a discussion of this document. The call-in details are as follows:

phone number: [REDACTED]
code: [REDACTED]

One of the questions that I have for Rich is the meaning/intent of the term "annotated" on the Table 1 pages of the ECA example language that you have shared with us.

Please note:

This is a draft document to facilitate our discussion as a drafting committee.

As John requested, line numbers are included on each page of the document.

As noted in the attached, Appendix A is under preparation and we are still evaluating whether other items need to be in Phase I described in Appendix B.

We are still working on Appendix C testing plan information to assure that the level of definitiveness requested is provided.

Since we are also still working on developing a firm test schedule, the deadlines in the revised Table 1 of the attached document. the version of Table 1 herein has TBD (to be determined) for the reporting deadlines.

We have found an ASTM standard (E 1868) for TGA that more closely reflects the TGA work historically done by UDRI (including the 3M program) and have therefore revised the TGA text to refer to E 1868.

Clarifying text and other notes in Italics are included in this draft document as internal comments shared among the drafting committee and are not intended to be in a more final version of the document.

Thank you in advance for your review and comment of this draft document as a step toward our development of a proposal to bring to the Plenary at the end of this month.

Best Regards,

Robert Giraud

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FP Incin Test Program draft 10-7-03, FP Incin Test Program draft 10-7-03.c

1 **Fluoropolymers Incineration Testing Program**

2 DRAFT 10-7-03

3

4

5 **I. CHEMICAL SUBJECT TO THE ECA**

6 The test substances (*i.e.*, *fluoropolymer test material*
7 *composites*) being studied in this testing program are
8 identified in Appendix A. The basis for test substance
9 selection and the preparation of the composites to undergo
10 testing are also described in Appendix A.

11

12 **II. PURPOSE OF TESTING PROGRAM**

13 The purpose of this testing program is to investigate
14 incineration of designated test substances under
15 laboratory-scale conditions representative of typical
16 municipal waste combustor operations in the U.S. to
17 quantitatively determine potential emission levels of PFOA.

18

19 **III. SCOPE OF TESTING PROGRAM**

20 The testing program will consist of

21

22 1) conducting the testing listed in Table 1 in accordance
23 with the test standards specified in Table 1 for the
24 test substances identified in Appendix A and

25

26 2) submitting the reports specified in Table 1 in
27 accordance with the deadlines set forth in Table 1.

28

29 **IV. DESCRIPTION OF TESTING PROGRAM**

30 The testing program has 2 phases as follows: Phase I Method
31 Demonstration and Phase II Incineration Testing.

32

33 **A. Phase I Method Demonstration**

34 This testing is described in Appendix B. Phase I testing
35 provides the necessary foundation for Phase II testing.

36

37 Following completion of Phase I and prior to initiation of
38 Phase II, the Test Sponsor will provide a brief status
39 report to EPA demonstrating the progress of testing. This
40 letter report will provide the result for the overall
41 recovery across the laboratory-scale thermal reactor system
42 determined from transport efficiency testing.

43

44 If this overall recovery for either PFOA or Fluorine is
45 greater than or equal to 70%, the Test Sponsor will proceed
46 to Phase II testing.

47

1 If this overall recovery for neither PFOA nor Fluorine is
2 greater than or equal to 70%, then a Technical Consultation
3 between the Agency and the Test Sponsor will be held to
4 reach agreement on whether Phase II testing should proceed
5 and, if so, on what (if any) revisions to the plans, test
6 standards, and schedule for Phase II testing to adopt.
7
8 B. Phase II Incineration Testing
9 This testing is described in Appendix C.
10

1 **Table 1. Required Testing, Test Standards, and Reporting**
2

Phase I Testing	Test Standard	Deadline for Final Report ^{1,2}
Transport Efficiency	See Appendix B	TBD

3

Phase II Testing for Test Substance Composites	Test Standard	Deadline for Final Report ¹
Laboratory-scale Incineration Testing	See Appendix C	TBD

4

5 1 Number of months after the effective date of the Order that
6 incorporates this ECA when final report is due. Following completion
7 of Phase I and prior to initiation of Phase II, the Test Sponsor will
8 provide a brief status report to EPA demonstrating the progress of
9 testing.

10 2 If the overall efficiency result from Phase I testing is not
11 greater than 70% for either PFOA or Fluorine, then a Technical
12 Consultation will be held to reach agreement on whether Phase II
13 testing should proceed and, if so, on what (if any) revisions to adopt
14 to the plans, test standards, and schedule for Phase II.

15

1 **APPENDICES**

2

3 A. Test Substances

4

5 B. Method Demonstration

6

7 C. Incineration Testing

1 **APPENDIX A. TEST SUBSTANCES**

2

3

4

5 Under development

6

1 **APPENDIX B. METHOD DEMONSTRATION**

2

3 Transport Efficiency

4 Quantitative transport of PFOA will be verified. For these
5 transport tests, 0.5 to 1.5 mg of PFOA will be gasified at
6 150 to 250 °C (based on thermogravimetric analysis of PFOA)
7 with transfer line and reactor temperatures 20 to 60 °C
8 higher than the gasification temperature. Sampling and
9 analysis will be performed to determine quantitation of
10 PFOA and fluorine in corresponding laboratory-scale thermal
11 reactor system exhaust gas samples.

12

13 The level of PFOA and fluorine determined in this exhaust
14 gas sample will be compared to the level of PFOA and
15 fluorine fed to the thermal reactor system.

16

17 If the resulting transport efficiency for either PFOA or
18 fluorine is greater than or equal to 70%, then the overall
19 recovery across the thermal reactor system is also greater
20 than or equal to 70%.

21

22 If the resulting transport efficiency for neither PFOA nor
23 fluorine is greater than or equal to 70%, then the reactor
24 will be disassembled and extracted with methanol, and the
25 solvent sample will be analyzed for PFOA and fluorine to
26 determine if adsorption on the reactor walls is responsible
27 for the low efficiency and to enable calculation of an
28 overall recovery across the thermal reactor system.

29

30 The experimental apparatus in this testing program is
31 configured such that additional extractions of the transfer
32 lines between the pyroprobe and the reactor and between the
33 reactor and the downstream sampling point are not feasible.

34

35

36 **NOTES FOR DRAFTING COMMITTEE ONLY:**

- 37 • Other potentially needed demonstration or verification
38 testing in Phase I are still under consideration.
- 39
- 40 • If additional testing is included in Phase I, then
41 Section IV.A and/or Table 1 need to be revised to address
42 how and when the results of such other Phase I testing
43 would be reported. For example if Phase II testing is
44 conducted, reporting of such other results from Phase I
45 will be included in the later Phase II Test Report rather
46 than in a separate report.

1 **APPENDIX C. INCINERATION TESTING**

2
3

4 In progress

5

6 (plan this appendix to be largely based on 9-12-03 Detailed
7 Test Protocol Outline as revised based on comments from
8 Rich Leukroth and John Blouin on 9-17-03 as well as from
9 Rich Leukroth on 9-18-03)

10

11

12

13 Attachment 1 to Appendix C:

14 Waste Incineration and Operating Conditions

15

16 (same as the Appendix from the 9-12-03 Detailed Test
17 Protocol if it is necessary to include this information in
18 an Appendix to the ECA)