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OPPT-2003-0071-0038



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12/18/03 09:02 PM

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cc: Greg Fritz/DC/USEPA/US@EPA, John Blouin/DC/USEPA/US@EPA

Subject: RE: Fluoropolymer ECA development

The purpose of this e-mail is to follow-up on commitments made during our Drafting Committee meeting on 12/10/03.

1) Attached is the revised draft ECA document incorporating changes discussed on 12/10/03 and adding new text to the signature pages as well as a new appendix to outline interim reporting. Please see note on the cover page.



ECA_FluoroIncin_dft12_22_03.p

2) As I recall this was EPA's only commitment on the fluoropolymer ECA at this time. If not please let me know what we missed.

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DRAFT #3 TO PFOA ECA PROCESS DRAFTING COMMITTEE

**ENFORCEABLE CONSENT AGREEMENT
FOR
THE LABORATORY-SCALE INCINERATION
TESTING OF FLUOROPOLYMERS**

Docket No. OPPT - [YEAR] - [EDOCKET NO.]

[DRAFT 12/22/03]

[Month Year]

NOTE TO DRAFTING COMMITTEE:

This 12/22/03 draft incorporates agreed changes as discussed at the 12/10/03 meeting. Where I thought there might be misunderstanding to the agreed change I have left this in **bold red** along with strikeouts. Bold red is also used for draft new text additions (e.g., see signature pages). EPA proposed alternative text and comments on where paragraphs were moved within the document are in **bold green**. Areas for continued **DISCUSSION** include original text, FMG proposed text, and in some cases EPA proposed alternative text. Where EPA has determined that FMG proposed additional text changes EPA "boilerplate" language this is indicated as **bold red ~~strikeout~~**.

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ENFORCEABLE CONSENT AGREEMENT FOR THE LABORATORY SCALE
INCINERATION TESTING OF FLUOROPOLYMERS

Docket No. [OPPT-?YEAR-EDOCKET NO. XXXX?]

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- F.** **?? OAAP outline**
- G.** **Copy of the EPA Order**
- H.** **Interim Progress Report Outline**

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1 **I. INTRODUCTION**

2
3 Under the authority of section 4 of the Toxic Substances Control Act (TSCA), 15 U.S.C.
4 2603, and 40 CFR Part 790 of the Agency's implementing regulations, the United States
5 Environmental Protection Agency (EPA) and Asahi Glass Fluoropolymers USA, Inc., Daikin America,
6 Inc., Dyneon, LLC, and E.I. du Pont de Nemours and Company (hereinafter collectively "the
7 Companies") enter into this enforceable consent agreement (ECA). This ECA will take effect on the
8 date of publication of the notice in the Federal Register announcing the issuance of the testing consent
9 order (Order) that incorporates this ECA.

10
11 On April 16, 2003, EPA initiated a public process to negotiate enforceable consent agreements
12 (ECAs) under section 4 of TSCA concerning perfluorooctanoic acid (PFOA) and fluorinated telomers
13 to develop environmental fate and transport information, as well as relevant information to enhance
14 understanding of the sources of PFOA in the environment and the pathways by which human exposure
15 to PFOA is occurring (68 FR 18626; April 16, 2003). The goal of the ECAs resulting from these
16 public discussions is to develop data relevant to identifying the pathway or pathways that result in
17 exposures to PFOA by air, water, soil, or food; and to characterize how PFOA gets into those
18 pathways (including the products or processes that are responsible for the presence of PFOA in the
19 environment). EPA anticipates that the data to be developed under such ECAs will be beyond or
20 supplemental to that of ongoing testing efforts described under industry letters of intent (LOIs) (Refs 1-
21 4). [OPPT-2003-0012-0007,0012,0013,0016]

22
23 In preparation for the June 6, 2003, public meeting, EPA developed a preliminary framework
24 document outlining data needs that the Agency deemed appropriate to address the outstanding PFOA
25 source and exposure questions identified in the *Federal Register* notice of April 16, 2003 (Ref
26 5) [OPPT-2003-0012-0056]. The intent of EPA's preliminary framework document was to serve as a
27 discussion guide for the June 6, 2003, public meeting and to aid in distinguishing between outstanding
28 EPA data needs and industry LOI commitments. The preliminary framework document was not a
29 predetermined list of information needs defining the outcome of the ECA process.

30
31 This ECA provides for a laboratory-scale incineration testing program of fluoropolymers, which
32 is one of the data needs identified in EPA's preliminary framework document for PFOA. On June 6,
33 2003, the PFOA Plenary Group (consisting of EPA and all interested parties) acknowledged such a
34 testing program as an opportunity for ECA development and tasked the Fluoropolymer Technical
35 Workgroup to work out the details that could be incorporated into an ECA between test sponsors and
36 EPA. On July 9, 2003, the Fluoropolymer Technical Workgroup received proposals from the
37 Companies and EPA for incineration testing of fluoropolymers. Details of this testing program were
38 developed by members of the Fluoropolymer Incineration Subgroup of the Fluoropolymer Technical
39 Workgroup during subsequent meetings. On [Month/Date], 2003, the Fluoropolymer Technical

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1 Workgroup acknowledged that this testing program had sufficient merit for consideration by the Plenary
2 Group. On [Month/Date], 2003, the Plenary Group discussed the merit of this testing program and
3 recommended that EPA consider entering into an ECA with test sponsors. The official record for the
4 development of this ECA, including the public version, is established under EPA docket control number
5 [OPPT-2003-0012]. The procedures for ECA negotiations are described at 40 CFR 790.22(b). The
6 official record for the testing conducted under this ECA is Docket No. [OPPT-?YEAR-EDOCKET
7 NO. XXXX?]

8
9
10 **II. TEST SUBSTANCES**

11
12 The chemicals subject to this ECA are the fluoropolymers listed in Appendix A.1.¹ For the
13 purpose of testing under this ECA the chemicals listed in Appendix A.1 will be combined to form four
14 composites (see Appendix A.3 and A.4). These composites are representative of fluoropolymer
15 products manufactured by the Companies that are currently available in the marketplace. The
16 Companies will provide the fluoropolymers specified in Appendix A.1 for incorporation into the
17 composites that will be tested under this ECA.² Criteria for the selection of each composite to be
18 tested under this ECA are described in Appendix A.2 of this ECA¹. The four composites to be tested
19 are defined for purposes of this ECA as:

- 20
21 (A) Dry Non-Melt PTFE Resin Composite: Ethene, tetrafluoro-,
22 homopolymer, CAS No. 9002-84-0,
23
24 (B) Dry Melt Fluoropolymer Resin Composite: (containing: 1-Propene,
25 1,1,2,3,3,3-hexafluoro-, polymer with tetrafluoroethene), CAS No.
26 25067-11-2; Propane, 1,1,1,2,2,3,3-heptafluoro-3-
27 [(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene, CAS No.
28 26655-00-5; Ethene, tetrafluoro-, polymer with
29 trifluoro(pentafluoroethoxy)ethene, CAS No. 31784-04-0; 1-Propene,
30 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and
31 tetrafluoroethene, CAS No. 25190-89-0; 1-Hexene,
32 3,3,4,4,5,5,6,6,6-nonafluoro-, polymer with ethene and
33 tetrafluoroethene, CAS No. 68258-85-5; and, 1-Propene,

¹ There is a Public and CBI version of Appendices A.1, ~~A.2, A.3, and A.4~~ [To be determined] because some of the Companies have asserted that details describing one or more of the chemicals subject to this ECA are entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

² See Part XXIII. of this ECA for list of chemicals subject to each of the Companies.

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1 1,1,2,3,3,3-hexafluoro-, polymer with ethene and tetrafluoroethene,
2 CAS No. 35560-16-8),
3

4 (C) Dry Non-Melt Fluoroelastomer Gum Composite: (containing: 1-
5 Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene,
6 CAS No. 9011-17-0; 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer
7 with 1,1-difluoroethene and tetrafluoroethene, CAS No. 25190-89-0;
8 1-Propene, polymer with 1,1-difluoroethene and tetrafluoroethene,
9 CAS No. 54675-89-7; 1-Propene, polymer with tetrafluoroethene,
10 CAS No. 27029-05-6; Ethene, tetrafluoro-, polymer with
11 trifluoro(trifluoromethoxy) ethene, CAS No. 26425-79-6; and, Ethene,
12 chlorotrifluoro-, polymer with 1,1-difluoroethene, CAS No. 9010-75-
13 7; and ??generic name??. **Accession No. ??????**, and
14

15 (D) Aqueous Fluoropolymer Dispersions Composite: (containing: Ethene,
16 tetrafluoro-, polymer with trifluoro(pentafluoroethoxy) ethene, CAS
17 No. 31784-04-0; Ethene, tetrafluoro-, homopolymer, CAS No.
18 9002-84-0; 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with
19 tetrafluoroethene), CAS No. 25067-11-2; Propane, 1,1,1,2,2,3,3-
20 heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene,
21 CAS No. 26655-00-5; Ethene, tetrafluoro-, polymer with
22 trifluoro(pentafluoroethoxy)ethene, CAS No. 31784-04-0; and 1-
23 Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and
24 tetrafluoroethene, CAS No. 25190-89-0.
25

26 The procedure for constructing each composite is described in Appendix A.4 to this ECA¹.
27 Components of each fluoropolymer composite to be tested must be as pure as can be reasonably
28 attained, and in any event must not be less than ~~XX~~ percent pure. The polymer components will be
29 unfilled first quality product polymer, substantially free of inorganic constituents. Each component of the
30 four composites to be tested under this ECA will be accompanied by a certificate of analysis, **and will**
31 **be shown to meet applicable product specifications.**
32

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1 **III. OBLIGATION OF SIGNATORY COMPANIES**

2
3 A. The Companies are bound by the terms of this ECA as specified below.

4
5 B. Each Company shall be responsible for supplying the test substance(s) it manufacturers
6 for incorporation into the composite(s) to be tested under this ECA, as specified on each Company
7 signature page and in Appendix A.3. The schedule for the testing program must include the
8 deadline date by which the Companies must submit their contribution(s) to the facility(ies) that
9 will be assembling the composites to be tested under this ECA. Any Company failing to comply
10 with this ECA requirement will be in violation of this ECA as described in 40 CFR 790.65 (see part XI
11 of this ECA). In the event that one or more of the Companies are in violation as described above then
12 the remaining Companies will inform EPA of the problem and request an EPA determination on
13 how to proceed with the testing program described under this ECA. Each Company required to
14 contribute to a particular composite is obligated to complete the testing required by this ECA for that
15 composite. A Company shall not be responsible for any failure to perform its obligation under this
16 ECA that is caused by circumstances beyond their control, that the Company could not have prevented
17 through the exercise of due diligence. Under such circumstances the Company will consult with EPA to
18 determine what modifications, if any, are needed in the test plan or scope of testing (see Part X of this
19 ECA regarding modification to this ECA as contained in 40 CFR 790.68).

20
21 C. The Companies recognize that to implement this ECA, EPA will issue an Order under
22 section 4 of TSCA that incorporates the terms of this ECA (see Appendix G). The Companies agree
23 that all terms of this ECA will take effect on the date of publication of the notice in the Federal Register
24 announcing the issuance of the Order that incorporates this ECA, and all applicable time periods will be
25 treated as beginning on that publication date.

26
27
28 **IV. PRINCIPAL TEST SPONSOR**

29
30 The Companies are members of the Fluoropolymer Manufacturers Group, Consortium for
31 Incineration Testing (CIT) which represents the manufacturers of the fluoropolymer chemicals
32 subject to this ECA as described in Part II and listed in Appendix A.1. In accordance with 40 CFR
33 790.60 (4) and 40 CFR 790.65 (d) the Companies, in their sole discretion, may elect to use FMG
34 have identified CIT to administer the test program under this ECA, and to communicate with EPA
35 about schedules, study plans, protocols, test standards, and other aspects of the testing program. In
36 performing these functions, the CIT will be acting as the agent of the Companies for purposes
37 of communication with EPA. EPA and the Companies acknowledge that, the CIT has no legal
38 responsibility for complying with this ECA. Responsibility for complying with the ECA rests at all times
39 with the Companies.
40

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1 **V. PURPOSE OF THE TESTING PROGRAM**

2
3 The purpose of the testing program specified by this ECA is to assess the potential for waste
4 incineration of fluoropolymers (see Part II and Appendix A.1 of this ECA) to emit PFOA, based on
5 quantitative determination of potential exhaust gas levels of PFOA that may emanate from laboratory-
6 scale combustion testing under conditions representative of typical municipal waste combustor
7 operations in the United States.

8
9 EPA believes that these incineration studies of fluoropolymers will develop data needed by the
10 Agency to determine whether waste incineration of fluoropolymers is a potential source of PFOA that
11 may contribute as a pathway to environmental and human exposures. The data may also be used to
12 inform screening level human and environmental exposure assessments. In addition, the data may also
13 be used by other Federal agencies (e.g., the Agency for Toxic Substances and Disease Registry
14 (ATSDR), the National Institute for Occupational Safety and Health (NIOSH), the Occupational
15 Safety and Health Administration (OSHA), and the Consumer Product Safety Commission (CPSC),
16 the Food and Drug Administration (FDA)) in assessing chemical risks and in taking appropriate actions
17 within their programs. It is intended that the data generated under this ECA will identify whether the
18 incineration of fluoropolymers contributes to the sources and pathways of environmental and human
19 exposure to PFOA.

20
21
22 **VI. SCOPE OF THE PROGRAM**

23
24 This testing program will consist of the testing listed in Table 1 in accordance with the test
25 standards specified in Table 1 and described in Appendices B.?? and C1 - C2.6 as annotated by
26 Appendix D.?? to this ECA ("Test Standards") and submitting the reports and documents specified in
27 Table 1 in accordance with the deadlines set forth in Table 1 and described in Appendices C.1 - C.2.6
28 and E.

29
30
31 **VII. DESCRIPTION OF THE TESTING PROGRAM**

32
33 The program has two segments as follows: Phase I PFOA Transport Testing and Phase II
34 Fluoropolymer Incineration Testing.

35
36 A. Phase I PFOA Transport Testing: Phase I will consist of quantitative transport
37 efficiency testing for PFOA. Phase I testing for PFOA transport efficiency is specified in the Phase I
38 PFOA Transport Testing segment of Table 1 and described in Appendix C.1 as annotated by
39 Appendices B.?? and D.?. At the conclusion of Phase I testing, the Companies, will provide EPA
40 with a letter report summarizing the results. In the event that the transport efficiency of PFOA or total

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1 fluorine **(as determined by the formulas in Appendix C.1)** is equal to or greater than 70%, testing
2 will proceed to Phase II Fluoropolymer Incineration Testing. In the event the transport efficiency of
3 PFOA or total fluorine **(as determined by the formulas in Appendix C.1)** is less than 70%, the
4 Companies will initiate a technical consultation with EPA (see Part VI. B. and Part VII of this ECA).
5

6 **B. Phase II Fluoropolymer Incineration Testing:** This testing, specified in the Phase II
7 Fluoropolymer Incineration Testing segment of Table 1 and described in Appendix C2.1 - C2.6 as
8 annotated by Appendices B.?? and D.?? will include the following for each fluoropolymer composite to
9 be tested under this ECA: 1) elemental analysis, 2) combustion stoichiometry, 3) thermogravimetric
10 analysis, 4) laboratory-scale combustion testing, and, 5) if required under this ECA,³ release
11 assessment reporting.
12
13

14 **VIII. PHASE I TECHNICAL CONSULTATION**

15
16 **A.** Following completion of Phase I and prior to the initiation of Phase II, the Companies will
17 submit a letter report to EPA with the results for the recovery across the laboratory-scale thermal
18 reactor system, as determined from Phase I testing.
19

20 **B.** If the recovery for either PFOA or Total Fluorine **(as determined by the formulas in**
21 **Appendix C.1)** is greater than or equal to 70%, the Companies will proceed to Phase II testing.
22

23 **C.** If the recovery for both PFOA and Total Fluorine **(as determined by the formulas in**
24 **Appendix C.1)** is less than 70%, a **Technical consultation will be held.** This technical consultation will
25 be to review the outcomes of the Phase I PFOA Transport Efficiency Testing, to discuss the feasibility
26 of proceeding with Phase II Testing as described in this ECA, and to determine whether additional
27 modifications are needed to the test standards and/or protocols described in Appendices B, C and D
28 for Phase I PFOA Transport Testing and/or Phase II Fluoropolymer Incineration Testing. The
29 objective of the Technical Consultation will be to reach agreement on how to proceed. Specifically, the
30 technical consultation will address: (1) whether the data from the Phase I PFOA Transport Testing
31 segment provide a sufficient basis for conducting the laboratory-scale incineration testing specified in the

³ In the event that Phase II Fluoropolymer Incineration Testing identifies measurable levels of PFOA (where measurable PFOA is defined to be at or above the limit of quantitation (LOQ) as defined in Appendix D.3) resulting from the incineration testing for any or all of the fluoropolymer composites tested under this ECA (see Part II and Appendix A.1 - A.4 to this ECA), the Companies will prepare a release assessment report (see Table 1 and Appendix E to this ECA) to place in perspective the relevance of such measurable levels in the laboratory-scale incineration testing results with respect to applicable full-scale waste incinerator operations in the United States.

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1 Phase II Fluoropolymer Incineration Testing segment; (2) the nature and scope of any additional Phase
2 I work that may be required prior to the commencement of Phase II Testing and reporting (e.g.,
3 modifications to the Advanced Thermal Reactor System) as described in Part VII. B. of this ECA),
4 and/or (3) the nature and scope of modifications to the protocols and test standards for Phase I and/or
5 Phase II testing that may be needed to complete the testing under this ECA.
6

7 Possible outcomes of the Technical Consultation include, but are not limited to, the following:

- 8 1. An agreement to conduct additional Phase I testing and
9 the schedule and standards for such testing to inform
10 whether and under what conditions to conduct Phase II
11 testing.
- 12 2. An agreement to proceed into Phase II testing with or
13 without agreed-to modifications to plans, test standards
14 and schedule for Phase II testing.
- 15 3. No agreement on a path forward, in which case the
16 Companies' obligations to conduct testing or reporting
17 beyond Phase I PFOA Transport Testing as described
18 in this ECA are terminated.
19
20
21

22 If the technical consultation between EPA and the Companies do not result in any of the outcomes
23 described above, EPA and the Companies, through the FMG, may modify this ECA according to the
24 procedures contained in 40 CFR 790.68 (see Part X. of this ECA).
25

26 **D. EPA shall place in the record for this action a summary of any Technical**
27 **Consultation meeting that is held under this paragraph. In the event modifications to the**
28 **scope of the testing program are deemed necessary, EPA and the Companies will revise this**
29 **ECA, as well as Table 1 and the Appendices, as appropriate. If EPA determines that changes**
30 **to the scope of the testing program are significant, an opportunity for public participation will**
31 **be provided. EPA will publish a request for public comments and/or announce a public**
32 **meeting in the Federal Register. Following the comment period, EPA will place in the record**
33 **for this action a summary of the Technical Consultation, a copy of comments received, a copy**
34 **of the letter sent to the Companies explaining the decisions and outcomes of the technical**
35 **consultation, and a copy of the modified ECA. This process is in lieu of the modification**
36 **procedures described in 40 CFR 790.68 (see Part X of this ECA).**
37
38
39
40

IX. STANDARDS FOR CONDUCTING TESTING

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1 A. Testing for the laboratory-scale incineration of the fluoropolymers described in Part II
2 and listed in Appendix A.1 of this ECA must be conducted in accordance with the Test Standards
3 listed in Table 1 and described in Appendices B.?? and C.1 - C.2 as annotated in Appendix D.?? to
4 this ECA. Certain provisions of these Test Standards are considered to be mandatory and are referred
5 to as "requirements." These requirements are identified by the use of the word "shall" in the text of the
6 Test Standard. For the purpose of this ECA, the words "will" and "must," if they appear in the Test
7 Standards, are considered equivalent to the word "shall" and therefore delineate a test requirement to
8 be followed or met.
9

10 Provisions that are not mandatory, and are therefore only recommended, are identified by the
11 use of "should" statements. In the event such "should" provisions are not followed, the Companies will
12 not be deemed by EPA to be in violation of this ECA and will not be subject to penalties or other
13 enforcement actions, as described in Part XI. of this ECA. However, in such cases, EPA will use its
14 professional judgement to determine the scientific adequacy of the test results and any repeat testing
15 that is determined by EPA to be necessary will be required either under a separate ECA or pursuant to
16 a rule promulgated under section 4(a) of TSCA, 15 U.S.C. 2603(a).
17

18 B. The Companies and EPA will consult in a good faith effort to consider the need for Test
19 Standard modifications if either EPA or the Companies desire such modifications. Modifications to this
20 ECA will be governed by 40 CFR 790.68 (see Part X. of this ECA).
21

22 ***** Follow-on DISCUSSION POINT:**

23 **[For a future meeting: The FMG will provide a table demonstrating how the QAPjP will**
24 **address the GLP requirements under 40 CFR part 792.]**
25

26 {12/22/03 Revised placeholder text to be discussed}

27 C. All testing required by this ECA must be conducted in accordance with the
28 EPA Good Laboratory Practice Standards (GLPS) found at 40 CFR part 792, except as
29 provided in Appendix F.
30

31 {11/24/03 FMG proposed revisions}

32 C. All testing required by this ECA must be conducted in accordance with ~~the EPA Good~~
33 ~~Laboratory Practice Standards (GLPS) found at 40 CFR part 792;~~ a Quality Assurance
34 Project Plan prepared in accordance with Appendix YYY.³
35

36 {original text}

37 C. All testing required by this ECA must be conducted in accordance with the EPA Good
38 Laboratory Practice Standards (GLPS) found at 40 CFR part 792.
39
40

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1 **Note the following text has been moved to Part XIII (Submissions to EPA)**

2 ~~—D. All final reports must be submitted by the Companies, through the FMG, to EPA by~~
3 ~~the dates specified in Table 1 unless otherwise authorized by EPA pursuant to 40 CFR 790.68. Interim~~
4 ~~status reports describing the status of all studies to be performed under this ECA testing program must~~
5 ~~be submitted by the Companies, through the FMG, to EPA every six months beginning six months~~
6 ~~from the effective date of this ECA and until the end of the ECA testing program described in Table 1~~
7 ~~of this ECA. These interim reports should contain information such as a summary of the status of each~~
8 ~~study being performed under this ECA testing program, a description of significant activities and/or~~
9 ~~difficulties experienced during the interim, and an explanation of the actions taken in response to such~~
10 ~~difficulties. See Part XIII. of this ECA regarding submissions to EPA.~~

11
12
13 **X. STUDY PLANS**

14
15 The Companies will submit a study plan to EPA for each test conducted pursuant to this ECA
16 prior to the initiation of testing in accordance with 40 CFR 790.62. (For this ECA, EPA will not
17 require the plans under this Part of the ECA to be submitted “no later than 45 days prior to the initiation
18 of testing,” as specified at 40 CFR 790.62(a)). The content of the study plan s plans submitted to
19 EPA will comply with 40 CFR 790.62(b). **To the extent specific portions of Table 1 and/or the**
20 **Appendices meet the requirements of any element of 40 CFR 790.62(b), the study plan may**
21 **cross reference those specific portions of Table 1 and/or the Appendices. ~~Since Table 1~~**
22 **~~and the Appendices to this ECA meet the requirements of 40 CFR 790.62(b) (2), (8), (9), (10),~~**
23 **~~the study plan submission will address only 40 CFR 790.62(b) (1), (3), (4), (5), (6), (7).~~** Also
24 pursuant to Part VIII. (C) of this ECA, the Companies must submit a Quality Assurance Project Plan ~~→~~
25 (QAPjP) **~~prepared in accordance with Appendix F.~~** Modifications to the **~~study plans plan~~**
26 under this part of the ECA will be governed by the procedures of 40 CFR 790.62(c) except that the 15
27 day time periods in 40 CFR 790.62(c) (2) and (3) will be 45 day time periods.. All study plans will
28 become part of the official record (Docket Control Number [OPPT-YEAR-EDOCKET NO. ??
29 XXXX ??]).

30
31
32
33
34 **XI. MODIFICATIONS TO THIS ENFORCEABLE CONSENT AGREEMENT**

⁴ Guidance for developing Quality Assurance Project Plans can be found in the EPA document EPA QA/G-5: *Guidance for Quality Assurance Project Plans*, prepared by: Office of Environmental Information, EPA, December 2002. This is also available from the EPA website at <http://epa.GOV/Quality/qs-docs>.

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1 Except as provided in this agreement, modifications to this ECA, if any, will be made according
2 to the procedures contained in 40 CFR 790.68.

3
4
5 **XII. FAILURE TO COMPLY WITH THE ENFORCEABLE CONSENT AGREEMENT**

6
7 The Companies acknowledge that a violation of the requirements of this ECA will constitute a
8 "prohibited act" under section 15(1) of TSCA, 15 U.S.C. 2614(1), and will trigger all provisions
9 applicable to a section 15 violation. In addition, the Companies acknowledge that noncompliance with
10 any term of this ECA by any Company will constitute conduct "in violation of this Act" under section
11 20(a)(1) of TSCA, 15 U.S.C. 2619(a)(1), and could result in a citizen's civil action.

12
13 Under the penalty provisions of section 16 of TSCA, 15 U.S.C. 2615, and the Federal Civil
14 Penalties Inflation Adjustment Act of 1990, 28 U.S.C. 2461 note, as amended by the Debt Collection
15 Improvement Act of 1996, 31 U.S.C. 3701 note, as implemented by 61 FR 69360 (December 31,
16 1996), a non-complying Company could be subject to a civil penalty of up to \$27,500 per violation,
17 with each day in violation potentially constituting a separate violation under section 15. Knowing or
18 willful violations may lead to the imposition of criminal penalties, or a fine of not more than \$27,500 for
19 each day of violation, or imprisonment for not more than one year, or both. In addition, EPA could
20 enforce this ECA pursuant to section 17 of TSCA, 15 U.S.C. 2616, by seeking an injunction to
21 compel adherence to the requirements of this ECA.

22
23
24 **XIII. EPA MONITORING OF ENFORCEABLE CONSENT AGREEMENT TESTING**

25
26 EPA may conduct monitoring activities of the testing conducted under this ECA such as
27 laboratory inspections and study audits, as permitted under section 11 of TSCA, 15 U.S.C. 2610.

28
29
30 **XIV. SUBMISSIONS TO EPA AND CONFIDENTIALITY OF INFORMATION**

31
32 A. All final reports must be submitted by the Companies to EPA by the dates specified in
33 Table 1 unless otherwise authorized by EPA pursuant to 40 CFR 790.68. **except as otherwise**
34 **provided herein A report will be deemed submitted when it is date stamped on the day it is**
35 **received in the Agency's Office of Pollution Prevention and Toxics (OPPT) Document Control**
36 **Office (see part XIII B. of this ECA).**

37
38 **In accordance with 40 CFR 790.62 (d), the Companies, through the principal test**
39 **sponsor, will submit interim progress reports to EPA informing the Agency of any proposed**
40 **changes in standards for the development of data, study plans, or test schedules, and**

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1 communicating with the Agency about laboratory inspections and other matters affecting the
2 progress of testing. The schedule for interim progress reports is specified in Table 1 of this
3 ECA. A suggested outline for interim progress reporting is provided in Appendix H.
4

5 B. All documents submitted to EPA under this ECA must be identified by the Docket ID
6 Number (OPPT- Year - EDOCKET NO. ?? XXXX??) and the name: ECA on Laboratory-Scale
7 Incineration Testing of Fluoropolymers. Submissions made by mail should be sent to: Document
8 Control Office (7407M), Office of Pollution Prevention and Toxics (OPPT), Environmental Protection
9 Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460-0001. Submissions made by hand
10 delivery or courier should be delivered to: OPPT Document Control Office (DCO) in the EPA East
11 Building, Room 6428, 1201 Constitution Avenue, NW, Washington, DC and marked Attention:
12 Docket ID Number OPPT- Year - ??XXXX??. The DCO is open from 8 a.m. to 4 p.m., Monday
13 through Friday, excluding legal holidays. The telephone number for the DCO is (202) 564-8930.
14

15 C. The Companies must submit six (6) paper copies of each version (Public and CBI) for
16 all reports described in Table 1 and Part VI A. and B. of this ECA. In addition, an electronic file of all
17 documents submitted under this ECA (marked as CBI where appropriate and in text-searchable, PDF
18 format) will be provided to EPA.
19

20 D. Any document submitted to EPA that contains data or information for which a
21 Signatory Company makes a claim of confidentiality (see Part XV of this ECA), must be submitted as
22 two separate versions. One version must be complete, with the information being claimed as
23 confidential marked in the manner described under 40 CFR 790.7. The other, public version must be
24 identical in all respects except that all of the information claimed as confidential shall be redacted. EPA
25 will place the public version in the Agency's docket. The complete version will be treated in
26 accordance with EPA confidentiality regulations in 40 CFR part 2 and 40 CFR 790.7.
27

28 Data or other information that are considered to be CBI must not be submitted through EPA's
29 electronic public docket or by e-mail. Any part or all of data or other information claimed as CBI must
30 be so marked. If the CBI submission is on diskette or CD ROM, mark the outside of the diskette or
31 CD ROM as CBI and then identify electronically within the diskette or CD ROM the specific
32 information that is CBI. Information marked as CBI will not be disclosed except in accordance with
33 procedures set forth in 40 CFR part 2 (see Part XV of this ECA).
34
35

36 **{NOTE: This text has been moved from part XV of the previous draft}**

37 Any claims of confidentiality for information submitted under this ECA will be made
38 under the terms of 40 CFR 790.7. If no claim of confidentiality is made by the submitter of
39 the information at the time of submission, the information will be deemed by EPA, in
40 accordance with 40 CFR 790.7, to be public, and may be made available to the public without

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1 ~~further notice to the submitter. Information claimed as confidential will be treated in~~
2 ~~accordance with the procedures in 40 CFR part 2 established pursuant to section 14 of TSCA,~~
3 ~~15 U.S.C. 2613.~~

4
5 {11/24/03 FMG proposed additional ECA text}

6 ~~A paper copy of a document shall be deemed submitted when it is either postmarked or~~
7 ~~placed in the hands of a commercial courier service for delivery to EPA at the appropriate~~
8 ~~address specified above. Hand-delivered documents are deemed submitted upon receipt.~~
9 ~~Electronically transmitted documents are deemed delivered upon transmission.~~ {NOTE: See
10 language added to Part XIII A. above}

11
12
13 **XV. PUBLICATION AND DISCLOSURE OF TEST RESULTS**

14
15 All results of testing conducted pursuant to this ECA will be announced to the public by EPA in
16 accordance with the procedures specified in section 4(d) of TSCA, 15 U.S.C. 2603(d). Disclosure
17 by EPA of data generated by such testing to the public or other government agencies will be governed
18 by section 14(b) of TSCA, 15 U.S.C. 2613(b), and 40 CFR part 2. ~~The CBI version of a~~
19 ~~document will not be provided to another government agency unless that agency has certified~~
20 ~~that it affords equivalent protection.~~ {NOTE: EPA has struck this FMG 11/24/03 proposed
21 additional ECA text}

22
23 **XV. CONFIDENTIALITY OF INFORMATION**

24 {Note: This text has been incorporated into Part XIII E.}

25 ~~Any claims of confidentiality for information submitted under this ECA will be made under the~~
26 ~~terms of 40 CFR 790.7. If no claim of confidentiality is made by the submitter of the information at the~~
27 ~~time of submission, the information will be deemed by EPA, in accordance with 40 CFR 790.7, to be~~
28 ~~public, and may be made available to the public without further notice to the submitter. Information~~
29 ~~claimed as confidential will be treated in accordance with the procedures in 40 CFR part 2 established~~
30 ~~pursuant to section 14 of TSCA, 15 U.S.C. 2613.~~

31
32
33 **XVI. OTHER RESPONSIBILITIES OF THE COMPANIES**

34
35 ~~*** DISCUSSION POINT~~ {As of 12/18/03 EPA continues internal deliberation on the
36 FMG request to modify Part XVI A. of this ECA}

37
38 A. The Companies will comply with the notification requirements of section 12(b)(1) of
39 TSCA, 15 U.S.C. 2611(b)(1), and 40 CFR part 707, subpart D, if they export or intend to export any
40 of the fluoropolymer chemicals listed in Appendix A.1 to this ECA. Any other person who exports or

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1 intends to export any of the fluoropolymer chemicals listed in Appendix A.1 to this ECA is subject to
2 the above cited export notification requirements
3

4 B. If any of the fluoropolymer chemicals listed in Appendix A.1 to this ECA become
5 subject to a rule promulgated under TSCA section 5(a)(2), 15 U.S.C. 2604(a)(2), governing significant
6 new uses of any of the fluoropolymer chemicals listed in Appendix A.1 to this ECA, then the
7 Companies will be subject to the data submission requirements imposed by section 5(b)(1)(A) of
8 TSCA, 15 U.S.C. 2604(b)(1)(A), as if the testing under this ECA had been required by a TSCA
9 section 4 test rule.
10
11

12 **XVII. SEVERABILITY OF ENFORCEABLE CONSENT AGREEMENT PROVISIONS**
13

14 In the event that one or more provisions of this ECA are determined by a court decision to be
15 unenforceable, the remaining provisions of this ECA will not be presumed to be valid, and EPA will
16 either initiate a rulemaking proceeding to require testing or publish in the Federal Register the reasons
17 for not initiating such a proceeding.
18
19

20 **XVIII. FINAL AGENCY ACTION**
21

22 For purposes of 5 U.S.C. 704, publication of the FR notice announcing the issuance of the
23 Order incorporating this ECA constitutes final agency action..
24
25

26 **XIX. PUBLIC RECORD**
27

28 EPA has established a public record which will contain this ECA, the Order that incorporates
29 this ECA, the Federal Register notice announcing issuance of the Order incorporating this ECA, and
30 any and all relevant information, subject to the confidentiality provisions of section 14(b) of TSCA and
31 40 CFR part 2. The official record for this ECA, including the public version, which does not include
32 any information claimed as CBI, has been established under Docket Control Number [OPPT-YEAR-
33 **EDOCKET NO. ?? XXXX ??**].
34

35 An electronic version of the public docket is available through EPA's electronic public docket
36 system, EPA Dockets. EPA Dockets may be accessed at <http://www.epa.gov/edocket/> to access the
37 index listing of the contents of the official public docket, and to access those documents in the public
38 docket that are available electronically. Although not all docket materials may be available
39 electronically, (for example the materials in the original dockets for this action, [AR-226 and OPPTS-
40 2003-0012], or materials under copyright), can be access any of the publicly available docket materials

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1 through the EPA Docket Center, Rm. B102-Reading Room, EPA West, 1301 Constitution Ave.,
2 NW., Washington, DC. For materials available in the electronic docket, once in the system, select
3 "search," then key in the appropriate docket ID number [(OPPT-YEAR-EDOCKET NO. XXXX).]
4
5

6 **XX. EFFECTIVENESS**
7

8 This ECA may be signed in separate counterparts. This ECA will not be effective unless signed
9 by each of the Companies and by EPA. This ECA will take effect on the date of publication of the
10 Federal Register notice announcing the issuance of the Order that incorporates this ECA.
11

12
13 **XXI. RIGHTS OF THE COMPANIES**
14

15 By signing this ECA, the Companies waive their right to challenge EPA's authority to assess
16 penalties for violations of the terms of this ECA. This waiver does not affect any other rights that the
17 Companies may have under TSCA, including the right to dispute the amount of any penalty or to
18 dispute factually whether a violation of the terms of this ECA has occurred, or to seek judicial review of
19 any rule that may be adopted by EPA that imposes requirements to test any of the fluoropolymer
20 chemicals listed in Appendix A.1 to this ECA.
21

22 {NOTE: EPA suggested revision (CAPS/strikeout) to 11/24/03 proposed FMG additional ECA
23 text}

24 ~~By signing this ECA, the Companies are not admitting that the pre-requisite~~
25 ~~requirements of *FINDINGS REQUIRED BY TSCA Section 4 (a)* have been satisfied for~~
26 ~~promulgating a test rule to generate the data required by this ECA. HAVE BEEN MADE BY~~
27 ~~EPA.~~
28
29
30

1
2 **XXII. IDENTITY OF THE COMPANIES AND PRINCIPAL TEST SPONSOR**
3

4 **The Principal Test Sponsor is:**
5

6 **Consortium for Incineration Testing (CIT)**

7 **[? Name of technical contact person ?]**

8 **[? ADDRESS ?]**

9 **[? Phone Number ?]**
10
11

12 The Companies subject to this ECA are:
13

14
15 Asahi Glass Fluoropolymers USA, Inc.

16 **[? ADDRESS ?]**
17
18

19 Daikin America, Inc.

20 **[? ADDRESS ?]**
21
22

23 Dyneon, LLC

24 **[? ADDRESS ?]**
25
26

27 E.I. du Pont de Nemours and Company

28 **[? ADDRESS ?]**
29

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1 **Special Page Header:** **ECA Copy # 3 Asahi Glass Fluoropolymers USA, Inc.**

2
3 **XXIII. SIGNATURE**

4 **TEST SPONSOR**

5
6 **Asahi Glass Fluoropolymers USA, Inc.¹**

7
8
9

CAS No.	Chemical Name	Composite(s)

10
11
12
13
14
15
16

17 **Company technical contact person for handling correspondence marked as "Confidential"**

18
19 **Name:**

20 **Title:**

21 **Address:**

22 **Phone Number:**

23
24
25
26
27 Date: _____

[? NAME ?]
[? TITLE ? e.g., Senior Vice President]

28
29

¹ Data in the table listing the ECA subject chemicals for Asahi Glass Fluoropolymers USA, Inc. was provide to EPA by the Company. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

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Asahi Glass Fluoropolymers USA, Inc.
[? ADDRESS ?]

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Special Page Header: ECA Copy # 4 Daikin America, Inc.

XXIII. SIGNATURE

TEST SPONSOR

Daikin America, Inc.¹

CAS No.	Chemical Name	Composite(s)

Company technical contact person for handling correspondence marked as "Confidential"

Name: [REDACTED]
Title: [REDACTED]
Address: [REDACTED]
Phone Number: [REDACTED]

Date: _____

[? NAME ?]
[? TITLE ? e.g., Senior Vice President]

¹ Data in the table listing the ECA subject chemicals for Daikin America, Inc. was provide to EPA by the Company. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information) .

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1
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Daikin America, Inc.
[? ADDRESS ?]

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FLUOROPOLYMER ECA DRAFTING COMMITTEE

1 Special Page Header:

ECA Copy # 5

Dyneon, LLC

2
3 **XXIII. SIGNATURE**

4 TEST SPONSOR

5
6 **Dyneon, LLC¹**

7

8 **ECA Subject Chemicals for**

9 **Dyneon, LLC**

10 CAS No.	Chemical Name	Composite(s)
11		
12		
13		
14		
15		

16

17 **Company technical contact person for handling correspondence marked as "Confidential"**

18

19 **Name:**

20 **Title:**

21 **Address:**

22 **Phone Number:**

23

24

25

26

27 Date: _____

[? NAME ?]

[? TITLE ? e.g., Senior Vice President]

28

29

¹ Data in the table listing the ECA subject chemicals for Dyneon, LLC was provide to EPA by the Company. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information) .

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1
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Dyneon, LLC
[? ADDRESS ?]

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1
2 Special Page Header:

ECA Copy # 6 E.I. du Pont de Nemours and Company

3
4 **XXIII. SIGNATURE**

5
6 TEST SPONSOR

7
8 **E.I. du Pont de Nemours and Company¹**

9
10
11

CAS No.	Chemical Name	Composite(s)

12
13
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18
19 Company technical contact person for handling correspondence marked as "Confidential"

20
21 Name:

22 Title:

23 Address:

24 Phone Number:

25
26
27 Date: _____

[? NAME ?]
[? TITLE ? e.g., Senior Vice President]

28
29

¹ Data in the table listing the ECA subject chemicals for E. I. du Pont de Nemours and Company was provide to EPA by the Company. There may be both a Public and CBI version of this page in those instances where the Company has asserted that data in this table are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

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E.I. du Pont de Nemours and Company
[? ADDRESS ?]

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1 Special Page Header:

2 ECA Copy # 1 EPA CONTAINS CONFIDENTIAL BUSINESS INFORMATION

3
4 Special Page Header:

5 ECA Copy # 2 EPA PUBLIC VERSION
6 CONTAINS NO CONFIDENTIAL BUSINESS INFORMATION

7
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9 XXIV. SIGNATURE

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17 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

18
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29 Date: _____

Stephen L. Johnson
Assistant Administrator
Office of Prevention, Pesticides, and Toxic Substances

30
31
32
33
34
35 Address:

U.S. Environmental Protection Agency
Office of Prevention, Pesticides, and Toxic Substances
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

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1
2 Table 1 REQUIRED TESTING, TEST STANDARDS, REPORTING AND OTHER
3 REQUIREMENTS FOR THE LABORATORY-SCALE INCINERATION TESTING OF
4 FLUOROPOLYMERS

Phase I PFOA Transport Testing	Test Standard	Deadline for Final Report (Months) ²
Quantitative PFOA transport analysis ³	See appendix C.1 as annotated in appendix D.?)	?TBD "4" ? ⁴

² Number of months after the effective date of the Order that incorporates this ECA when final report is due. Interim status reports, describing the status of all testing to be performed under this ECA, must be submitted by the Companies, through the FMG, to EPA every 6 months beginning six months from the effective date of this ECA until the end of the ECA testing program (see Part VIII. D. and Part XIII. of this ECA).

³ As described in Part VI. A. and B. of this ECA, at the conclusion of Phase I PFOA transport efficiency testing, and prior to initiation of Phase II, the Companies, through the FMG, will provide a letter/report to EPA summarizing the results of Phase I testing. In the event that the transport efficiency of PFOA or of total fluorine (as expressed as the total stoichiometric fluorine content of PFOA and/or as total fluorine) is greater than or equal to 70% then testing will proceed to Phase II Incineration Testing. In the event that the transport efficiency of PFOA or of total fluorine (as expressed as the total stoichiometric fluorine content of PFOA and/or as total fluorine) is less than 70% then the Companies, through the FMG, will initiate a Technical Consultation with EPA to determine under what conditions Phase II testing can proceed. The outcomes of the Technical Consultation are described in Part VII of this ECA.

⁴ In the event that the transport efficiency of PFOA or of total fluorine (as expressed as the total stoichiometric fluorine content of PFOA and/or as total fluorine) is less than 70% and the Technical Consultation concludes that testing can not proceed to Phase II, then the Companies, through the FMG, will submit a complete report for Phase I testing within 60 days following notification of the Technical Consultation outcome. In the event that the outcome of the Technical Consultation indicates that testing can proceed to Phase II Testing then the final report for Phase I will be incorporated into the final report for Phase II Testing.

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Phase II Fluoropolymer Incineration Testing	Test Standard	Deadline for Final Report (Months) ⁵
Elemental analysis	ASTM D 3176 or equivalent (see Appendix B.? as annotated in Appendix C.2.1)	?TBD "4"?
Combustion stoichiometry	See Appendix C.2.2 as annotated in Appendix D.?	?TBD "4"?
Thermogravimetric analysis	ASTM E 1868-02 (see Appendix B.? as annotated in Appendix C.2.3)	?TBD "6"?
Laboratory-scale combustion testing	Appendix C.2.4 as annotated in Appendix D.?)	?TBD "18"?
Release assessment report ⁶	(see Appendix E)	?TBD "20"?

⁵ Number of months after initiation of Phase II testing when final report for this testing is due (see footnotes 2 and 3).

⁶ In the event that Phase II Testing identifies measurable levels of PFOA (where measurable PFOA is defined to be at or above the limit of detection (LOD) and, where LOD is identified to be 10 ppt under standard temperature and pressure (see also Appendix D.3)) resulting from the combustion testing for any or all of the fluoropolymer composites to be tested under this ECA, then the Companies, through the FMG, will prepare a release assessment report to put into perspective the relevance of the laboratory-scale incineration testing data with respect to municipal incineration operations in the United States (see Appendix E to this ECA).

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APPENDIX A

TEST SUBSTANCES

- A.1 List of Chemicals Subject to this ECA**
- A.2 Rationale for Selecting Composites to be Tested**
- A.3 Composition of Composites to be Tested**
- A.4 Preparation of Composites to be Tested**

PUBLIC VERSION - CONTAINS NO CBI

APPENDIX A.1

LIST OF CHEMICALS SUBJECT TO THIS ECA¹

The following table lists the thirteen fluoropolymer chemicals that are the subject to this ECA.

The identities of the fluoropolymers subject to this ECA were provided to EPA as support documentation of the Companies' LOI commitments. Some of this documentation, including certain aspects related to the identity of the test substance as described in Part II of this ECA and the table below, may contain Confidential Business Information (CBI). In such instances EPA creates a comprehensive database for evaluation and comparison, and, when possible, provides a public version sanitized of CBI.

Subsequent analysis of the list of fluoropolymers received by EPA supported the conclusion that the individual chemicals listed below are representative of all known fluoropolymer chemicals and the basic chemistries are represented by the four composite test substances that are subject to testing under this ECA (i.e., dry melt fluoropolymer resin, dry non-melt PTFE homopolymer resin/gum, dry non-melt fluoroelastomer resin/gum, aqueous fluoropolymer dispersions) (see ECA Appendix A.2 and A.3). The fluoropolymer structure is predominantly -(CF₂)_x- which is a potential source of PFOA. For all fluoropolymer products used in commerce, the -(CF₂)- moiety is common to all polymers and the composites to be tested under this ECA testing program (see Appendix A.2-A.4) are representative of the individual component and non-component fluorochemicals.

No.	CAS No.	Chemical Name
1	9002-84-0	Ethene, tetrafluoro-, homopolymer
2	25067-11-2	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with tetrafluoroethene)
3	26655-00-5	Propane, 1,1,1,2,2,3,3-heptafluoro-3-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene
4	25190-89-0	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene and tetrafluoroethene
5	68258-85-5	1-Hexene, 3,3,4,4,5,5,6,6,6,-nonafluoro-, polymer with ethene and tetrafluoroethene

¹ There is a Public and CBI version of Appendix A.1 because the Companies have asserted that details describing their chemical(s) are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

PUBLIC VERSION - CONTAINS NO CBI

1	6	35560-16-8	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with ethene and tetrafluoroethene
2	7	9011-17-0	1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene
3	8	54675-89-7	1-Propene, polymer with 1,1-difluoroethene and tetrafluoroethene
4	9	27029-05-6	1-Propene, polymer with tetrafluoroethene
5	10	26425-79-6	Ethene, tetrafluoro-, polymer with trifluoro(trifluoroethoxy)ethene
6	11	9010-75-7	Ethene, chlorotrifluoro-, polymer with 1,1-difluoroethene
7	12	31784-04-0	Ethene, tetrafluoro-, polymer with trifluoro(pentafluoroethoxy)ethene
8	13	CBI Accession No. 2222	??generic name??

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PUBLIC VERSION - CONTAINS NO CBI

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APPENDIX A.2

RATIONALE FOR SELECTING COMPOSITES TO BE TESTED

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APPENDIX A.3

COMPOSITION OF COMPOSITES TO BE TESTED¹

¹ There is a Public and CBI version of Appendix A.3 because the Companies have asserted that details describing their chemical(s) are considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

PUBLIC VERSION - CONTAINS NO CBI

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APPENDIX A.4

PREPARATION OF COMPOSITES TO BE TESTED¹

¹ There is a Public and CBI version of Appendix A.4 because the Companies have asserted that details describing their chemical(s) as a component of the composite(s) is considered by them to be entitled to treatment as TSCA confidential business information (CBI) (see Part XV of this ECA regarding confidentiality of information).

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APPENDIX B

TEST STANDARDS

- B.1** ASTM E 18680-02 Loss-on-Drying by Thermogravimetry
- B.2** others.....?

* To be provided by FMG

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APPENDIX C

PROTOCOLS AS TEST STANDARDS

- C.1 Transport Efficiency Testing**
- C.2 Incineration Testing**
 - C.2.1 Elemental Analysis**
 - C.2.2 Combustion Stoichiometry**
 - C.2.3 Thermogravimetric Analysis**
 - C.2.4 Combustion Testing**
 - C.2.5 Sampling and Analysis**
 - C.2.6 Study Reporting**

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APPENDIX D

ATTACHMENTS AND REFERENCED MATERIALS

- D.1 Wickbold Torch Method
- D.2 Waste Incineration and Operation Conditions
- D.3 PFOA Analysis Method
- D.4 Other.....

* To be provided by the FMG

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APPENDIX E

OUTLINE FOR THE RELEASE ASSESSMENT REPORT

APPENDIX E
Outline for Release Assessment Report

As described in Part VI C., footnote 2, and Table 1 footnote 5 of this document, if the results of Phase II Fluoropolymer Incineration Testing show that PFOA is quantitated at greater than the LOD (Limit of Detection), the Companies, through the FMG, will provide a release assessment report to put the data into perspective relevant to municipal waste incineration practices in the United States. The objective of this release report is to place the results of the laboratory-scale incineration test as described in Part VI C. and Table 1 of this ECA in context with the process of municipal waste incineration in the United States and to provide sufficient quality information to inform human and environmental exposure assessments. At a minimum, the report will follow the general outline described below and will state assumptions, verify the validity of the assumptions made, and evaluate and characterize the variability and uncertainty of calculated estimates:

1.0 Introduction

- **Statement of objective for combustion testing of fluoropolymers**
- **Applicability of the laboratory-scale combustion testing to municipal waste incinerators in the United States.**

2.0 Summary of study results

- **A listing of compounds collected at the targeted temperature**

3.0 Discussion

- **Description of the typical municipal incineration process being modeled including the rationale for selecting targeted temperatures, describe typical operational parameters, and potential occupational exposures.**

4.0 Extrapolation of laboratory test results to the typical municipal incinerator described in section 3.0 (above) for each composite.

- **A description of the extrapolation**
- **A description of any assumptions used**
- **Any unique qualitative or quantitative descriptors of the test, the testing equipment, and the results deemed necessary for informative review of the test and test results.**

5.0 Sensitivity Analysis

- **Assessment of the impact of variability/uncertainty (quantitative and qualitative) in each parameter on the modeling results.**

6.0 Conclusions

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APPENDIX F

QUALITY ASSURANCE PROJECT PLAN (QAPJ) OUTLINE

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2 ** ?? Insert discussion draft prepared by FMG

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APPENDIX G

**COPY OF EPA ORDER INCORPORATING THIS
ENFORCEABLE CONSENT AGREEMENT**

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APPENDIX G

**UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**

**TESTING CONSENT ORDER FOR THE LABORATORY-SCALE INCINERATION
TESTING OF FLUOROPOLYMERS**

Docket No. OPPT - ?? xxxxxxxx ??

18 Under the authority of section 4 of the Toxic Substances Control Act (TSCA), 15 U.S.C.
19 2603, the United States Environmental Protection Agency (EPA) issues this testing consent order
20 (Order) to take effect on the date of publication of the notice in the Federal Register announcing the
21 issuance of this Order. This Order incorporates the enforceable consent agreement (ECA) for the
22 laboratory-scale incineration testing of the fluoropolymers listed in Appendix A.1 of the ECA.

23
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25 _____
26 Date

Stephen L. Johnson,
Assistant Administrator
for Prevention, Pesticides,
and Toxic Substances

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APPENDIX H

SUGGESTED INTERIM REPORT OUTLINE

1 First Draft of Discussion and Comment

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4 SUGGESTED INTERIM REPORT OUTLINE

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8 Title: Enforceable Consent Agreement for the Laboratory-Scale Incineration Testing
9 of Fluoropolymers

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11 OPPT Docket ID No: OPPT-Year-XXXXX

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13 Date of Report:

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17 This Report covers the period from [date] to [date]

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19 1) List of significant ECA Test Program milestones during this six month period:

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25 2) Description of difficulties: (If none indicate N/A)

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31 3) Actions taken in response to difficulties: (If none indicate N/A)