State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL **CERTIFIED MAIL**
ADAMS COUNTY

Street Address: 122 S. Front Street
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329
Mailing Address: Lazarus Gov. Center P.O. Box 1049

Application No: 07-00547
Fac ID: 0701000070
DATE: 5/5/2005

Ershigs, Inc.
Bruce Smith
742 Marine Drive Box 1707
Bellingham, WA 98227

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

cc: **USEPA** **PCHD**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 5/5/2005**
Terms and Conditions	**Effective Date: 5/5/2005**

FINAL PERMIT TO INSTALL 07-00547

Application Number:	07-00547
Facility ID:	0701000070
Permit Fee:	**$900**
Name of Facility:	Ershigs, Inc.
Person to Contact:	Bruce Smith
Address:	742 Marine Drive Box 1707 Bellingham, WA 98227

Location of proposed air contaminant source(s) [emissions unit(s)]:
745 US Highway 52
Manchester, **Ohio**

Description of proposed emissions unit(s):
Ershigs Inc. will construct and operate a temporary manufacturing facility for(FRP) chimney liners and jet bubbling reactors for DPL J.M. Stuart Station.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Joseph P. Koncelik

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.

b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.9 below if no deviations occurred during the quarter.

iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.
Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition

declared invalid.

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

12. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

4. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete

within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

6. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

7. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

8. Construction Compliance Certification

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
VOC	39.77

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

1. **40 CFR - CHAPTER I - PART 63**

Subpart WWWW - National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production
[The following emissions units contained in this permit are subject to 40 CFR 63, Subpart WWWW: P001, P002, P003, T001, T002, T003.]

§§ 63.5780 What is the purpose of this subpart?

This subpart establishes national emissions standards for hazardous air pollutants (NESHAP) for reinforced plastic composites production. This subpart also establishes requirements to demonstrate initial and continuous compliance with the hazardous air pollutants (HAP) emissions standards.
§§ 63.5785 Am I subject to this subpart?
(a) You are subject to this subpart if you own or operate a reinforced plastic composites production facility that is located at a major source of HAP emissions. Reinforced plastic composites production is limited to operations in which reinforced and/or nonreinforced plastic composites or plastic molding compounds are manufactured using thermoset resins and/or gel coats that contain styrene to produce plastic composites. The resins and gel coats may also contain materials designed to enhance the chemical, physical, and/or thermal properties of the product. Reinforced plastic composites production also includes cleaning, mixing, HAP-containing materials storage, and repair operations associated with the production of plastic composites.
(b) You are not subject to this subpart if your facility only repairs reinforced plastic composites. Repair includes the non-routine manufacture of individual components or parts intended to repair a larger item as defined in §§ 63.5935
(c) You are not subject to this subpart if your facility is a research and development facility as defined in section 112(c)(7) of the Clean Air Act (CAA).
(d) You are not subject to this subpart if your reinforced plastic composites operations use less than 1.2 tons per year (tpy) of thermoset resins and gel coats that contain styrene combined.
§§ 63.5787 What if I also manufacture fiberglass boats or boat parts?
(a) If your source meets the applicability criteria in §§ 63.5785, and is not subject to the Boat Manufacturing NESHAP (40 CFR part 63, subpart VVVV), you are subject to this subpart regardless of the final use of the parts you manufacture.
(b) If your source is subject to 40 CFR part 63, subpart VVVV, and all the reinforced plastic composites you manufacture are used in manufacturing your boats, you are not subject to this subpart.
(c) If you are subject to 40 CFR part 63, subpart VVVV, and meet the applicability criteria in §§ 63.5785, and produce reinforced plastic composites that are not used in fiberglass boat manufacture at your facility, all operations associated with the manufacture of the reinforced plastic composites parts that are not used in

fiberglass boat manufacture at your facility are subject to this subpart, except as noted in paragraph (d) of this section.

(d) Facilities potentially subject to both this subpart and 40 CFR part 63, subpart VVVV may elect to have the operations in paragraph (c) of this section covered by 40 CFR part 63, subpart VVVV, in lieu of this subpart, if they can demonstrate that this will not result in any organic HAP emissions increase compared to complying with this subpart.

§§ 63.5790 What parts of my plant does this subpart cover?

(a) This subpart applies to each new or existing affected source at reinforced plastic composites production facilities.

(b) The affected source consists of all parts of your facility engaged in the following operations: Open molding, closed molding, centrifugal casting, continuous lamination, continuous casting, polymer casting, pultrusion, sheet molding compound (SMC) manufacturing, bulk molding compound (BMC) manufacturing, mixing, cleaning of equipment used in reinforced plastic composites manufacture, HAP-containing materials storage, and repair operations on parts you also manufacture.

(c) The following operations are specifically excluded from any requirements in this subpart: Application of mold sealing and release agents, mold stripping and cleaning, repair of parts that you did not manufacture, including non-routine manufacturing of parts, personal activities that are not part of the manufacturing operations (such as hobby shops on military bases), prepreg materials as defined in §§ 63.5935, non-gel coat surface coatings, repair or production materials that do not contain resin or gel coat, and research and development operations as defined in section 112(c)(7) of the CAA.

(d) Production resins that must meet military specifications are allowed to meet the organic HAP limit contained in that specification. In order for this exemption to be used, you must supply to the permitting authority the specifications certified as accurate by the military procurement officer, and those specifications must state a requirement for a specific resin, or a specific resin HAP content. Production resins for which this exemption is used must be applied with nonatomizing resin application equipment unless you can demonstrate this is infeasible. You must keep a record of the resins for which you are using this exemption.

§§ 63.5795 How do I know if my reinforced plastic composites production facility is a new affected source or an existing affected source?

(a) A reinforced plastic composites production facility is a new affected source if it meets all the criteria in paragraphs (a)(1) and (2) of this section.

(1) You commence construction of the affected source after August 2, 2001.

(2) You commence construction, and no other reinforced plastic composites production affected source exists at that site.

(b) For the purposes of this subpart, an existing affected source is any affected source that is not a new affected source.

§§ 63.5796 What are the organic HAP emissions factor equations in Table 1 to this subpart, and how are they used in this subpart?

Emissions factors are used in this subpart to determine compliance with certain organic HAP emissions limits in Tables 3 and 5 to this subpart. You may use the equations in Table 1 to this subpart to calculate your emissions factors. Equations are available for each open molding operation and centrifugal casting operation and have units of pounds of organic HAP emitted per ton (lb/ton) of resin or gel coat applied. These equations are intended to provide a method for you to demonstrate compliance without the need to conduct for a HAP emissions test. In

lieu of these equations, you can elect to use site-specific organic HAP emissions factors to demonstrate compliance provided your site-specific organic HAP emissions factors are incorporated in the

facility's air emissions permit and are based on actual facility HAP emissions test data. You may also use the organic HAP emissions factors calculated using the equations in Table 1 to this subpart, combined with resin and gel coat use data, to calculate your organic HAP emissions.

§§ 63.5797 How do I determine the organic HAP content of my resins and gel coats?

In order to determine the organic HAP content of resins and gel coats, you may rely on information provided by the material manufacturer, such as manufacturer's formulation data and material safety data sheets (MSDS), using the procedures specified in paragraphs (a) through (c) of this section, as applicable.

(a) Include in the organic HAP total each organic HAP that is present at 0.1 percent by mass or more for Occupational Safety and Health Administration-defined carcinogens, as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other organic HAP compounds.

(b) If the organic HAP content is provided by the material supplier or manufacturer as a range, you must use the upper limit of the range for determining compliance. If a separate measurement of the total organic HAP content, such as an analysis of the material by EPA Method 311 of appendix A to 40 CFR part 63, exceeds the upper limit of the range of the total organic HAP content provided by the material supplier or manufacturer, then you must use the measured organic HAP content to determine compliance.

(c) If the organic HAP content is provided as a single value, you may use that value to determine compliance. If a separate measurement of the total organic HAP content is made and is less than 2 percentage points higher than the value for total organic HAP content provided by the material supplier or manufacturer, then you still may use the provided value to demonstrate compliance. If the measured total organic HAP content exceeds the provided value by 2 percentage points or more, then you must use the measured organic HAP content to determine compliance.

§§ 63.5798 What if I want to use, or I manufacture, an application technology (new or existing) whose organic HAP emissions characteristics are not represented by the equations in Table 1 to this subpart?

If you wish to use a resin or gel coat application technology (new or existing), whose emission characteristics are not represented by the equations in Table 1 to this subpart, you may use the procedures in paragraphs (a) or (b) of this section to establish an organic HAP emissions factor. This organic HAP emissions factor may then be used to determine compliance with the emission limits in this subpart, and to calculate facility organic HAP emissions.

(a) Perform a organic HAP emissions test to determine a site-specific organic HAP emissions factor using the test procedures in §§ 63.5850.

(b) Submit a petition to the Administrator for administrative review of this subpart. This petition must contain a description of the resin or gel coat application technology and supporting organic HAP emissions test data obtained using EPA test methods or their equivalent. The emission test data should be obtained using a range of resin or gel coat HAP contents to demonstrate the effectiveness of the technology under the different conditions, and to demonstrate that the technology will be effective at different sites. We will review the submitted data, and, if appropriate, update the equations in Table 1 to this subpart.

§§ 63.5799 How do I calculate my facility's organic HAP emissions on a tpy basis for purposes of determining which paragraphs of §§ 63.5805 apply?

To calculate your facility's organic HAP emissions in tpy for purposes of determining which paragraphs in §§ 63.5805 apply to you, you must use the procedures in either paragraph (a) of this section for new facilities prior to startup, or paragraph (b) of this section for existing facilities and new facilities after startup. You are not required to calculate or report emissions under this section if you are an existing facility that does not have

centrifugal casting or continuous lamination/casting operations, or a new facility that does not have any of the following operations: Open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC and BMC manufacturing, and mixing. Emissions calculation and emission reporting procedures in other sections of this subpart still apply. Calculate organic HAP emissions prior to any add-on control device, and do not include organic HAP emissions from any resin or gel coat used in operations subject to the Boat Manufacturing NESHAP, 40 CFR part 63, subpart VVVV, or from the manufacture of large parts as defined in §§ 63.5805(d)(2). For centrifugal casting operations at existing facilities, do not include any organic HAP emissions where resin or gel coat is applied to an open centrifugal mold using open molding application techniques. Table 1 and the Table 1 footnotes to this subpart present more information on calculating centrifugal casting organic HAP emissions. The timing and reporting of these calculations is discussed in paragraph (c) of this section.
(a) For new facilities prior to startup, calculate a weighted average organic HAP emissions factor for the operations specified in §§ 63.5805(b) and (d) on a lbs/ton of resin and gel coat basis. Base the weighted average on your projected operation for the 12 months subsequent to facility startup. Multiply the weighted average organic HAP emissions factor by projected resin use over the same period. You may calculate your organic HAP emissions factor based on the factors in Table 1 to this subpart, or you may use any HAP emissions factor approved by us, such as factors from the Compilation of Air Pollutant Emissions Factors, Volume I: Stationary Point and Area Sources (AP-42), or organic HAP emissions test data from similar facilities.
(b) For existing facilities and new facilities after startup, you may use the procedures in either paragraph (b)(1) or (2) of this section. If the emission factors for an existing facility have changed over the period of time prior to their initial compliance date due to incorporation of pollution-prevention control techniques, existing facilities may base the average emission factor on their operations as they exist on the compliance date. If an existing facility has accepted an enforceable permit limit of less than 100 tons per year of HAP, and can demonstrate that they will operate at that level subsequent to the compliance date, the they can be deemed to be below the 100 tpy threshold.
(1) *Use a calculated emission factor.* Calculate a weighted average organic HAP emissions factor on a lbs/ton of resin and gel coat basis. Base the weighted average on the prior 12 months of operation. Multiply the weighted average organic HAP emissions factor by resin and gel coat use over the same period. You may calculate this organic HAP emissions factor based on the equations in Table 1 to this subpart, or you may use any organic HAP emissions factor approved by us, such as factors from AP-42, or site-specific organic HAP emissions factors if they are supported by HAP emissions test data.
(2) *Conduct performance testing.* Conduct performance testing using the test procedures in §§ 63.5850 to determine a site-specific organic HAP emissions factor in units of lbs/ton of resin and gel coat used. Conduct the test under conditions expected to result in the highest possible organic HAP emissions. Multiply this factor by annual resin and gel coat use to determine annual organic HAP emissions. This calculation must be repeated and reported annually.
(c) Existing facilities must initially perform this calculation based on their 12 months of operation prior to April 21, 2003, and include this information with their initial notification report. Existing facilities must repeat the calculation based on their resin and gel coat use in the 12 months prior to their initial compliance date, and submit this information with their initial compliance report. After their initial compliance date, existing and new facilities must recalculate organic HAP emissions over the 12-month period ending June 30 or December 31,

whichever date is the first date following their compliance date specified in §§ 63.5800. Subsequent calculations should cover the periods in the semiannual compliance reports.

§§ 63.5800 When do I have to comply with this subpart?
You must comply with the standards in this subpart by the dates specified in Table 2 to this subpart. Facilities meeting a organic HAP emissions standard based on a 12-month rolling average must begin collecting data on the compliance date in order to demonstrate compliance.

§§ 63.5805 What standards must I meet to comply with this subpart?
You must meet the requirements of paragraphs (a) through (h) of this section that apply to you. You may elect to comply using any options to meeting these standards described in §§§§ 63.5810 through 63.5830. Use the procedures in §§ 63.5799 to determine if you meet or exceed the 100 tpy threshold.
(a) If you have an existing facility that does not have any centrifugal casting or continuous lamination/casting operations, or an existing facility that does have centrifugal casting or continuous lamination/casting operations, but the combination of all centrifugal casting and continuous lamination/casting operations emit less than 100 tpy of HAP, you must meet the annual average organic HAP emissions limits in Table 3 to this subpart and the work practice standards in Table 4 to this subpart that apply to you.
(b) If you have an existing facility that emits 100 tpy or more of HAP from the combination of all centrifugal casting and continuous lamination/casting operations, you must reduce the total organic HAP emissions from these operations by at least 95 percent by weight and meet any applicable work practice standards in Table 4 to this subpart that apply to you. Operations other than centrifugal casting, and continuous lamination/casting, must meet the requirements in Tables 3 and 4 to this subpart. As an alternative to meeting 95 percent by weight, you may meet the organic HAP emissions limits in Table 5 to this subpart. If you have a continuous lamination/casting operation, that operation may alternatively meet a organic HAP emissions limit of 1.47 lbs/ton of neat resin plus and neat gel coat plus applied. For centrifugal casting, the percent reduction requirement does not apply to organic HAP emissions that occur during resin application onto an open centrifugal casting mold using open molding application techniques.
(c) If you have a new facility that emits less than 100 tpy of HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC manufacturing, mixing, and BMC manufacturing, you must meet the annual average organic HAP emissions limits in Table 3 to this subpart and the work practice standards in Table 4 to this subpart that apply to you.
(d)(1) Except as provided in paragraph (d)(2) of this section, if you have a new facility that emits 100 tpy or more of HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC manufacturing, mixing, and BMC manufacturing, you must reduce the total organic HAP emissions from these operations by at least 95 percent by weight and meet any applicable work practice standards in Table 4 to this subpart that apply to you. As an alternative to meeting 95 percent by weight, you may meet the organic HAP emissions limits in Table 5 to this subpart. If you have a continuous lamination/casting operation, that operation may alternatively meet a organic HAP emissions limit of 1.47 lbs/ton of neat resin plus and neat gel coat plus applied.
(2)(i) If your new facility manufactures large reinforced plastic composites parts using open molding or pultrusion operations, the specific open molding and pultrusion operations used to produce large parts are not required to reduce HAP emissions by 95 weight percent, but must meet the emission limits in Table 3 to this subpart.

(ii) A large open molding part is defined as a part that, when the final finished part is enclosed in the smallest rectangular six-sided box into which the part can fit, the total interior volume of the box exceeds 250 cubic feet, or any interior sides of the box exceed 50 square feet.
(iii) A large pultruded part is a part that exceeds an outside perimeter of 24 inches or has more than 350 reinforcements.

(e) If you have a new or existing facility subject to paragraphs (a) or (c) of this section at their initial compliance date, that subsequently meets or exceeds the 100 tpy threshold in any calendar year, you must notify your permitting authority in your compliance report. You may at the same time request a one-time exemption from the requirements of paragraphs (b) or (d) of this section in your compliance report if you can demonstrate all of the following: (1) The exceedance of the threshold was due to circumstances that will not to be repeated. (2) The average annual organic HAP emissions from the potentially affected operations for the last 3 years were below 100 tpy. (3) Projected organic HAP emissions for the next calendar year are below 100 tpy, based on projected resin and gel coat use and the HAP emission factors calculated according to the procedures in §§ 63.5799
(f) If you apply for an exemption in paragraph (e) of this section, and subsequently exceed the HAP emission thresholds specified in paragraphs (a) or (c) of this section over the next 12-month period, you must notify the permitting authority in your semi-annual report, the exemption is removed, and your facility must comply with paragraphs (b) or (d) of this section within 3 years from the time your organic HAP emissions first exceeded the threshold.
(g) If you have repair operations subject to this subpart as defined in §§ 63.5785, these repair operations must meet the requirements in Tables 3 and 4 to this subpart, and are not required to meet the 95 percent organic HAP emissions reduction requirements in paragraphs (b) or (d) of this section. (h) If you use an add-on control device to comply with this subpart, you must meet all requirements contained in 40 CFR part 63, subpart SS.

§§ 63.5810 What are my options for meeting the standards for open molding and centrifugal casting operations at new and existing sources?
You must use one of the following methods in paragraphs (a) through (d) of this section to meet the standards in §§ 63.5805. When you are complying with an emission limit in Tables 3 or 5 to this subpart, you may use any control method that reduces organic HAP emissions, including reducing resin and gel coat organic HAP content, changing to nonatomized mechanical application, covered curing techniques, and routing part or all of your emissions to an add-on control. The necessary calculations must be completed within 30 days after the end of each month. You may switch between the compliance options in paragraphs (a) through (d) of this section. When you change to an option based on a 12-month rolling average, you must base the average on the previous 12 months of data calculated using the compliance option you are currently using unless you were using the compliant materials option in paragraph (d) of this section. In this case, you must immediately begin collecting resin and gel coat use data and demonstrate compliance 12 months after changing options.
(a) *Meet the individual organic HAP emissions limits for each operation.* Demonstrate that you meet the individual organic HAP emissions limits for each open molding operation and for each centrifugal casting operation type in Tables 3, or 5 to this subpart that apply to you. This is done in two steps. First, determine an organic HAP factor for each individual resin and gel coat, application method, and control method you use in a particular operation. Second, calculate, for each particular operation type, a weighted average of those organic HAP emissions factors based on resin and gel coat use. Your calculated organic HAP emissions factor must either be at or below the applicable organic HAP emissions limit in Tables 3 or 5 to this subpart based on a 12-month rolling average. Use the procedures described in paragraphs (a)(1) through (3) of this section to calculate average organic HAP emissions factors for each of your operations.
(1) Calculate your actual organic HAP emissions factor for each different process stream within each operation

type. A process stream is defined as each individual combination of resin or gel coat, application technique, and control technique. Process streams within operations types are considered different from each other if any of the following three characteristics vary: The neat resin plus or neat gel coat plus organic HAP content, the application technique, or the control technique. You must calculate organic HAP emissions factors for each

different process stream by using the appropriate equations in Table 1 to this subpart for open molding and for centrifugal casting, or site-specific organic HAP emissions factors discussed in §§ 63.5796. If you want to use vapor suppressants to meet the organic HAP emissions limit for open molding, you must determine the vapor suppressant effectiveness by conducting testing according to the procedures specified of appendix A to subpart WWWW of 40 CFR part 63. If you want to use an add-on control device to meet the organic HAP emissions limit, you must determine the add-on control factor by conducting capture and control efficiency testing, using the procedures specified in §§ 63.5850. The organic HAP emissions factor calculated from the equations in Table 1 to this subpart, or site-specific emissions factors, is multiplied by the add-on control factor to calculate the organic HAP emissions factor after control. Use Equation 1 of this section to calculate the add-on control factor used in the organic HAP emissions factor equations.

Where:
Percent Control Efficiency=a value calculated from organic HAP emissions test measurements made according to the requirements of §§ 63.5850 to this subpart
(2) Calculate your actual operation organic HAP emissions factor for the last 12 months for each open molding operation type and for each centrifugal casting operation type by calculating the weighted average of the individual process stream organic HAP emissions factors within each respective operation. To do this, sum the product of each individual organic HAP emissions factor calculated in paragraph (a)(1) of this section and the amount of neat resin plus and neat gel coat plus usage that correspond to the individual factors and divide the numerator by the total amount of neat resin plus and neat gel coat plus used in that operation type. Use Equation 2 of this section to calculate your actual organic HAP emissions factor for each open molding operation type and each centrifugal casting operation type.

Where:
Actual Process Stream EFi=actual organic HAP emissions factor for process stream i, lbs/ton
Materiali=neat resin plus or neat gel coat plus used during the last 12 calendar months for process stream i, tons
n=number of process streams where you calculated an organic HAP emissions factor
(3) Compare each organic HAP emissions factor calculated in paragraph (b)(2) of this section with its corresponding organic HAP emissions limit in Tables 3 or 5 to this subpart. If all emissions factors are equal to or less than their corresponding emission limits, then you are in compliance.
(b) *HAP Emissions factor averaging option.* Demonstrate each month that you meet each weighted average of

the organic HAP emissions limits in Tables 3 or 5 to this subpart that apply to you. When using this option, you must demonstrate compliance with the weighted average organic HAP emissions limit for all your open molding operations, and then separately demonstrate compliance with the weighted average organic HAP emissions limit for all your centrifugal casting operations. Open molding operations and centrifugal casting operations may not be averaged with each other.

(1) Each month calculate the weighted average organic HAP emissions limit for all open molding operations and the weighted average organic HAP emissions limit for all centrifugal casting operations for your facility for the last 12-month period to determine the organic HAP emissions limit you must meet. To do this, multiply the individual organic HAP emissions limits in Tables 3 or 5 to this subpart for each open molding (centrifugal casting) operation type by the amount of neat resin plus or neat gel coat plus used in the last 12 months for each open molding (centrifugal casting) operation type, sum these results, and then divide this sum by the total amount of neat resin plus and neat gel coat plus used in open molding (centrifugal casting) over the last 12 months. Use Equation 3 of this section to calculate the weighted average organic HAP emissions limit for all open molding operations and separately for all centrifugal casting operations.

Where:
ELi=organic HAP emissions limit for operation type i, lbs/ton from Tables 3, 5 or 7 to this subpart
Materiali=neat resin plus or neat gel coat plus used during the last 12-month period for operation type i, tons
n=number of operations
(2) Each month calculate your actual weighted average organic HAP emissions factor for open molding and centrifugal casting. To do this, multiply your actual open molding (centrifugal casting) operation organic HAP emissions factors and the amount of neat resin plus and neat gel coat plus used in each open molding (centrifugal casting) operation type, sum the results, and divide this sum by the total amount of neat resin plus and neat gel coat plus used in open molding (centrifugal casting) operations. You must calculate your actual individual HAP emissions factors for each operation type as described in paragraphs (a)(1) and (2) of this section. Use Equation 4 of this section to calculate your actual weighted average organic HAP emissions factor.

Where:
Actual Individual EFi=Actual organic HAP emissions factor for operation type i, lbs/ton
Materiali=neat resin plus or neat gel coat plus used during the last 12 calendar months for operation type i, tons
n=number of operations
(3) Compare the values calculated in paragraphs (b)(1) and (2) of this section. If each 12-month rolling average organic HAP emissions factor is less than or equal to the corresponding 12-month rolling average organic HAP

emissions limit, then you are in compliance.
(c) *If you have multiple operation types, meet the organic HAP emissions limit for one operation type, and use the same resin(s) for all operations of that resin type.* If you have more than one operation type, you may meet the emission limit for one of those operations, and use the same resin(s) in all other open molding and centrifugal casting operations.

(1) This option is limited to resins of the same type. The resin types for which this option may be used are noncorrosion-resistant, corrosion-resistant and/or high strength, and tooling.
(2) For any combination of manual resin application, mechanical resin application, filament application, or centrifugal casting, you may elect to meet the organic HAP emissions limit for any one of these operations and use that operation's same resin in all of the resin operations listed in this paragraph. Table 7 to this subpart presents the possible combinations based on a facility selecting the application process that results in the highest allowable organic HAP content resin. If your resin organic HAP content is below the applicable values shown in Table 7 to this subpart, you are in compliance.
(3) You may also use a weighted average organic HAP content for each operation described in paragraph (c)(2) of this section. Calculate the weighted average organic HAP content monthly. Use Equation 2 in §§ 63.5810(a)(2) except substitute organic HAP content for organic HAP emissions factor. You are in compliance if the weighted average organic HAP content based on the last 12 months of resin use is less than or equal to the applicable organic HAP contents in Table 7 to this subpart.
(4) You may simultaneously use the averaging provisions in paragraph (b) of this section to demonstrate compliance for any operations and/or resins you do not include in your compliance demonstrations is paragraphs (c)(2) and (3) of this section. However, any resins for which you claim compliance under the option in paragraphs (c)(2) and (3) of this section may not be included in any of the averaging calculations described in paragraphs (a) or (b) of this section used for resins for which you are not claiming compliance under this option.
(d) Use resins and gel coats that do not exceed the maximum organic HAP contents shown in Table 3 to this subpart.

§§ 63.5820 What are my options for meeting the standards for continuous lamination/casting operations?

You must use one or more of the options in paragraphs (a) through (d) of this section to meet the standards in §§ 63.5805. Use the calculation procedures in §§§§ 63.5865 through 63.5890.
(a) *Compliant line option.* Demonstrate that each continuous lamination line and each continuous casting line complies with the applicable standard.
(b) *Averaging option.* Demonstrate that all continuous lamination and continuous casting lines combined, comply with the applicable standard.
(c) *Add-on control device option.* If your operation must meet the 58.5 weight percent organic HAP emissions reduction limit in Table 3 to this subpart, you have the option of demonstrating that you achieve 95 percent reduction of all wet-out area organic HAP emissions.
(d) *Combination option.* Use any combination of options in paragraphs (a) and (b) of this section or, for affected sources at existing facilities, any combination of options in paragraphs (a), (b), and (c) of this section (in which one or more lines meet the standards on their own, two or more lines averaged together meet the standards, and one or more lines have their wet-out areas controlled to a level of 95 percent).

§§ 63.5830 What are my options for meeting the standards for pultrusion operations subject to the 60 weight percent organic HAP emissions reductions requirement?

You must use one or more of the options in paragraphs (a) through (e) of this section to meet the 60 weight percent organic HAP emissions limit in Table 3 to this subpart, as required in §§ 63.5805.
(a) Achieve an overall reduction in organic HAP emissions of 60 weight percent by capturing the organic HAP emissions and venting them to a control device or any combination of control devices. Conduct capture and

destruction efficiency testing as specified in 63.5850 to this subpart to determine the percent organic HAP emissions reduction.

(b) Design, install, and operate wet area enclosures and resin drip collection systems on pultrusion machines that meet the criteria in paragraphs (b)(1) through (10) of this section.
(1) The enclosure must cover and enclose the open resin bath and the forming area in which reinforcements are pre-wet or wet-out and moving toward the die(s). The surfaces of the enclosure must be closed except for openings to allow material to enter and exit the enclosure.
(2) For open bath pultrusion machines with a radio frequency pre-heat unit, the enclosure must extend from the beginning of the resin bath to within 12.5 inches or less of the entrance of the radio frequency pre-heat unit. If the stock that is within 12.5 inches or less of the entrance to the radio frequency pre-heat unit has any drip, it must be enclosed. The stock exiting the radio frequency pre-heat unit is not required to be in an enclosure if the stock has no drip between the exit of the radio frequency pre-heat unit to within 0.5 inches of the entrance of the die.
(3) For open bath pultrusion machines without a radio frequency pre-heat unit, the enclosure must extend from the beginning of the resin bath to within 0.5 inches or less of the die entrance.
(4) For pultrusion lines with a pre-wet area prior to direct die injection, the enclosure must extend from the point at which the resin is applied to the reinforcement to within 12.5 inches or less of the entrance of the die(s). If the stock that is within 12.5 inches or less of the entrance to the die has any drip, it must be enclosed.
(5) The total open area of the enclosure must not exceed two times the cross sectional area of the puller window(s) and must comply with the requirements in paragraphs (b)(5)(i) through (iii) of this section.
(i) All areas that are open need to be included in the total open area calculation with the exception of access panels, doors, and/or hatches that are part of the enclosure.
(ii) The area that is displaced by entering reinforcement or exiting product is considered open.
(iii) Areas that are covered by brush covers are considered closed.
(6) Open areas for level control devices, monitoring devices, agitation shafts, and fill hoses must have no more than 1.0 inch clearance.
(7) The access panels, doors, and/or hatches that are part of the enclosure must close tightly. Damaged access panels, doors, and/or hatches that do not close tightly must be replaced.
(8) The enclosure may not be removed from the pultrusion line, and access panels, doors, and/or hatches that are part of the enclosure must remain closed whenever resin is in the bath, except for the time period discussed in paragraph (b)(9) of this section.
(9) The maximum length of time the enclosure may be removed from the pultrusion line or the access panels, doors, and/or hatches and may be open, is 30 minutes per 8 hour shift, 45 minutes per 12 hour shift, or 90 minutes per day if the machine is operated for 24 hours in a day. The time restrictions do not apply if the open doors or panels do not cause the limit of two times the puller window area to be exceeded. Facilities may average the times that access panels, doors, and/or hatches are open across all operating lines. In that case the average must not exceed the times shown in this paragraph (b)(9). All lines included in the average must have operated the entire time period being averaged.
(10) No fans, blowers, and/or air lines may be allowed within the enclosure. The enclosure must not be ventilated.
(c) Use direct die injection pultrusion machines with resin drip collection systems that meet all the criteria specified in paragraphs (c)(1) through (3) of this section.

(1) All the resin that is applied to the reinforcement is delivered directly to the die.
(2) No exposed resin is present, except at the face of the die.
(3) Resin drip is captured in closed piping and recycled directly to the resin injection chamber.
(d) Use a preform injection system that meets the definition in §§ 63.5935

(e) Use any combination of options in paragraphs (a) through (d) of this section in which different pultrusion lines comply with different options described in paragraphs (a) through (d) of this section, and
(1) Each individual pultrusion machine meets the 60 percent reduction requirement, or
(2) The weighted average reduction based on resin throughout of all machines combined is 60 percent. For purposes of the average percent reduction calculation, wet area enclosures reduce organic HAP emissions by 60 percent, and direct die injection and preform injection reduce organic HAP emissions by 90 percent.

§§ 63.5835 What are my general requirements for complying with this subpart?

(a) You must be in compliance at all times with the work practice standards in Table 4 to this subpart, as well as the organic HAP emissions limits in Tables 3, or 5, or the organic HAP content limits in Table 7 to this subpart, as applicable, that you are meeting without the use of add-on controls.
(b) You must be in compliance with all organic HAP emissions limits in this subpart that you meet using add-on controls, except during periods of startup, shutdown, and malfunction.
(c) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §§ 63.6(e)(1)(i).
(d) You must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in §§ 63.6(e)(3) for any organic HAP emissions limits you meet using an add-on control.

§§ 63.5840 By what date must I conduct a performance test or other initial compliance demonstration?

You must conduct performance tests, performance evaluations, design evaluations, capture efficiency testing, and other initial compliance demonstrations by the compliance date specified in Table 2 to this subpart, with three exceptions. Open molding and centrifugal casting operations that elect to meet a organic HAP emissions limit on a 12-month rolling average must initiate collection of the required data on the compliance date, and demonstrate compliance 1 year after the compliance date. New sources that use add-on controls to initially meet compliance must demonstrate compliance within 180 days after their compliance date.

§§ 63.5845 When must I conduct subsequent performance tests?

You must conduct a performance test every 5 years following the initial performance test for any standard you meet with an add-on control device.

§§ 63.5850 How do I conduct performance tests, performance evaluations, and design evaluations?

(a) If you are using any add-on controls to meet a organic HAP emissions limit in this subpart, you must conduct each performance test, performance evaluation, and design evaluation in 40 CFR part 63, subpart SS, that applies to you. The basic requirements for performance tests, performance evaluations, and design evaluations are presented in Table 6 to this subpart.
(b) Each performance test must be conducted according to the requirements in §§ 63.7(e)(1) and under the specific conditions that 40 CFR part 63, subpart SS, specifies.
(c) Each performance evaluation must be conducted according to the requirements in §§ 63.8(e) as applicable and under the specific conditions that 40 CFR part 63, subpart SS, specifies.
(d) You may not conduct performance tests or performance evaluations during periods of startup, shutdown, or malfunction, as specified in §§ 63.7(e)(1).
(e) You must conduct the control device performance test using the emission measurement methods specified in paragraphs (e)(1) through (5) of this section.
(1) Use either Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, to select the sampling sites.

(2) Use Method 2, 2A, 2C, 2D, 2F or 2G of appendix A to 40 CFR part 60, as appropriate, to measure gas volumetric flow rate.
(3) Use Method 18 of appendix A to 40 CFR part 60 to measure organic HAP emissions or use Method 25A of appendix A to 40 CFR part 60 to measure total gaseous organic emissions as a surrogate for total organic HAP emissions. If you use Method 25A, you must assume that all gaseous organic emissions measured as carbon are organic HAP emissions. If you use Method 18 and the number of organic HAP in the exhaust stream exceeds five, you must take into account the use of multiple chromatographic columns and analytical techniques to get an accurate measure of at least 90 percent of the total organic HAP mass emissions. Do not use Method 18 to measure organic HAP emissions from a combustion device; use instead Method 25A and assume that all gaseous organic mass emissions measured as carbon are organic HAP emissions.
(4) You may use American Society for Testing and Materials (ASTM) D6420-99 (available for purchase from at least one of the following addresses: 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.) in lieu of Method 18 of 40 CFR part 60, appendix A, under the conditions specified in paragraphs (c)(4)(i) through (iii) of this section.
(i) If the target compound(s) is listed in Section 1.1 of ASTM D6420-99 and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume.
(ii) If the target compound(s) is not listed in Section 1.1 of ASTM D6420-99, but is potentially detected by mass spectrometry, an additional system continuing calibration check after each run, as detailed in Section 10.5.3 of ASTM D6420-99, must be followed, met, documented, and submitted with the performance test report even if you do not use a moisture condenser or the compound is not considered soluble.
(iii) If a minimum of one sample/analysis cycle is completed at least every 15 minutes.
(5) Use the procedures in EPA Method 3B of appendix A to 40 CFR part 60 to determine an oxygen correction factor if required by §§ 63.997(e)(2)(iii)(C). You may use American Society of Mechanical Engineers (ASME) PTC 19-10-1981-Part 10 (available for purchase from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, New Jersey, 07007-2900, or online at *www.asme.org/catalog*) as an alternative to EPA Method 3B of appendix A to 40 CFR part 60.
(f) The control device performance test must consist of three runs and each run must last at least 1 hour. The production conditions during the test runs must represent normal production conditions with respect to the types of parts being made and material application methods. The production conditions during the test must also represent maximum potential emissions with respect to the organic HAP content of the materials being applied and the material application rates.
(g) If you are using a concentrator/oxidizer control device, you must test the combined flow upstream of the concentrator, and the combined outlet flow from both the oxidizer and the concentrator to determine the overall control device efficiency. If the outlet flow from the concentrator and oxidizer are exhausted in separate stacks, you must test both stacks simultaneously with the inlet to the concentrator to determine the overall control device efficiency.
(h) During the test, you must also monitor and record separately the amounts of production resin, tooling resin, pigmented gel coat, clear gel coat, and tooling gel coat applied inside the enclosure that is vented to the control device.

§§ 63.5855 What are my monitor installation and operation requirements?

You must monitor and operate all add-on control devices according to the procedures in 40 CFR part 63, subpart SS.

§§ 63.5860 How do I demonstrate initial compliance with the standards?
(a) You demonstrate initial compliance with each organic HAP emissions standard in paragraphs (a) through (h) of §§ 63.5805 that applies to you by using the procedures shown in Tables 8 and 9 to this subpart.
(b) If using an add-on control device to demonstrate compliance, you must also establish each control device operating limit in 40 CFR part 63, subpart SS, that applies to you.
Emission Factor, Percent Reduction, and Capture Efficiency Calculation Procedures for Continuous Lamination/Casting Operations

§§ 63.5865 What data must I generate to demonstrate compliance with the standards for continuous lamination/casting operations?
(a) For continuous lamination/casting affected sources complying with a percent reduction requirement, you must generate the data identified in Tables 10 and 11 to this subpart for each data requirement that applies to your facility.
(b) For continuous lamination/casting affected sources complying with a lbs/ton limit, you must generate the data identified in Tables 11 and 12 to this subpart for each data requirement that applies to your facility.

§§ 63.5870 How do I calculate annual uncontrolled and controlled organic HAP emissions from my wet-out area(s) and from my oven(s) for continuous lamination/casting operations?
To calculate your annual uncontrolled and controlled organic HAP emissions from your wet-out areas and from your ovens, you must develop uncontrolled and controlled wet-out area and uncontrolled and controlled oven organic HAP emissions estimation equations or factors to apply to each formula applied on each line, determine how much of each formula for each end product is applied each year on each line, and assign uncontrolled and controlled wet-out area and uncontrolled and controlled oven organic HAP emissions estimation equations or factors to each formula. You must determine the overall capture efficiency using the procedures in §§ 63.5850 to this subpart.
(a) To develop uncontrolled and controlled organic HAP emissions estimation equations and factors, you must, at a minimum, do the following, as specified in paragraphs (a)(1) through (6) of this section:
(1) Identify each end product and the thickness of each end product produced on the line. Separate end products into the following end product groupings, as applicable: corrosion-resistant gel coated end products, noncorrosion-resistant gel coated end products, corrosion-resistant nongel coated end products, and noncorrosion-resistant nongel coated end products. This step creates end product/thickness combinations.
(2) Identify each formula used on the line to produce each end product/thickness combination. Identify the amount of each such formula applied per year. Rank each formula used to produce each end product/thickness combination according to usage within each end product/thickness combination.
(3) For each end product/thickness combination being produced, select the formula with the highest usage rate for testing.
(4) If not already selected, also select the worst-case formula (likely to be associated with the formula with the highest organic HAP content, type of HAP, application of gel coat, thin product, low line speed, higher resin table temperature) amongst all formulae. (You may use the results of the worst-case formula test for all formulae if desired to limit the amount of testing required.)

(5) For each formula selected for testing, conduct at least one test (consisting of three runs). During the test, track information on organic HAP content and type of HAP, end product thickness, line speed, and resin temperature on the wet-out area table.
(6) Using the test results, develop uncontrolled and controlled organic HAP emissions estimation equations (or factors) or series of equations (or factors) that best fit the results for estimating uncontrolled and controlled

organic HAP emissions, taking into account the organic HAP content and type of HAP, end product thickness, line speed, and resin temperature on the wet-out area table.
(b) In lieu of using the method specified in paragraph (a) of this section for developing uncontrolled and controlled organic HAP emissions estimation equations and factors, you may either method specified in paragraphs (b)(1) and (2) of this section, as applicable.
(1) For either uncontrolled or controlled organic HAP emissions estimates, you may use previously established, facility-specific organic HAP emissions equations or factors, provided they allow estimation of both wet-out area and oven organic HAP emissions, where necessary, and have been approved by your permitting authority. If a previously established equation or factor is specific to the wet-out area only, or to the oven only, then you must develop the corresponding uncontrolled or controlled equation or factor for the other organic HAP emissions source.
(2) For uncontrolled (controlled) organic HAP emissions estimates, you may use controlled (uncontrolled) organic HAP emissions estimates and control device destruction efficiency to calculate your uncontrolled (controlled) organic HAP emissions provided the control device destruction efficiency was calculated at the same time you collected the data to develop your facility's controlled (uncontrolled) organic HAP emissions estimation equations and factors.
(c) Assign to each formula an uncontrolled organic HAP emissions estimation equation or factor based on the end product/thickness combination for which that formula is used.
(d)(1) To calculate your annual uncontrolled organic HAP emissions from wet-out areas that do not have any capture and control and from wet-out areas that are captured by an enclosure but are vented to the atmosphere and not to a control device, multiply each formula's annual usage by its appropriate organic HAP emissions estimation equation or factor and sum the individual results.
(2) To calculate your annual uncontrolled organic HAP emissions that escape from the enclosure on the wet-out area, multiply each formula's annual usage by its appropriate uncontrolled organic HAP emissions estimation equation or factor, sum the individual results, and multiply the summation by 1 minus the percent capture (expressed as a fraction).
(3) To calculate your annual uncontrolled oven organic HAP emissions, multiply each formula's annual usage by its appropriate uncontrolled organic HAP emissions estimation equation or factor and sum the individual results.
(4) To calculate your annual controlled organic HAP emissions, multiply each formula's annual usage by its appropriate organic HAP emissions estimation equation or factor and sum the individual results to obtain total annual controlled organic HAP emissions.
(e) Where a facility is calculating both uncontrolled and controlled organic HAP emissions estimation equations and factors, you must test the same formulae. In addition, you must develop both sets of equations and factors from the same tests.

§§ 63.5875 How do I determine the capture efficiency of the enclosure on my wet-out area and the capture efficiency of my oven(s) for continuous lamination/casting operations?
(a) The capture efficiency of a wet-out area enclosure is assumed to be 100 percent if it meets the design and operation requirements for a permanent total enclosure (PTE) specified in EPA Method 204 of appendix M to 40 CFR part 51. If a PTE does not exist, then a temporary total enclosure must be constructed and verified using

EPA Method 204, and capture efficiency testing must be determined using EPA Methods 204B through E of appendix M to 40 CFR part 51.
(b) The capture efficiency of an oven is to be considered 100 percent, provided the oven is operated under negative pressure.

§§ 63.5880 How do I determine how much neat resin plus is applied to the line and how much neat gel coat plus is applied to the line for continuous lamination/casting operations?
Use the following procedures to determine how much neat resin plus and neat gel coat plus is applied to the line each year.
(a) Track formula usage by end product/thickness combinations.
(b) Use in-house records to show usage. This may be either from automated systems or manual records.
(c) Record daily the usage of each formula/end product combination on each line. This is to be recorded at the end of each run (*i.e.*, when a changeover in formula or product is made) and at the end of each shift.
(d) Sum the amounts from the daily records to calculate annual usage of each formula/end product combination by line.

§§ 63.5885 How do I calculate percent reduction to demonstrate compliance for Continuous Lamination/Casting Operations?
You may calculate percent reduction using any of the methods in paragraphs (a) through (d) of this section.
(a) *Compliant line option.* If all of your wet-out areas have PTE that meet the requirements of EPA Method 204 of appendix M of 40 CFR part 51, and all of your wet-out area organic HAP emissions and oven organic HAP emissions are vented to an add-on control device, use Equation 1 of this section to demonstrate compliance. In all other situations, use Equation 2 of this section to demonstrate compliance.

(Equation 1)

(Figure)

See Attachment A for Equation 1

Where:
PR=percent reduction
Inlet=HAP emissions entering the control device, lbs per year
Outlet=HAP emissions exiting the control device to the atmosphere, lbs per year

(Equation 2)

(Figure)

See Attachment A for Equation 2

Where:
PR=percent reduction WAEu=uncontrolled wet-out area organic HAP emissions, lbs per year

Ou=uncontrolled oven organic HAP emissions, lbs per year
WAEc=controlled wet-out area organic HAP emissions, lbs per year
Oc=controlled oven organic HAP emissions, lbs per year
(b) *Averaging option.* Use Equation 3 of this section to calculate percent reduction.

(Equation 3)

(Figure)

See Attachment A for Equation 3

Where:
PR=percent reduction
WAEui=uncontrolled organic HAP emissions from wet-out area i, lbs per year
Ouj=uncontrolled organic HAP emissions from oven j, lbs per year
WAEci=controlled organic HAP emissions from wet-out area i, lbs per year
Ocj=controlled organic HAP emissions from oven j, lbs per year
i=number of wet-out areas
j=number of ovens
m=number of wet-out areas uncontrolled
n=number of ovens uncontrolled
o=number of wet-out areas controlled
p=number of ovens controlled
(c) *Add-on control device option.* Use Equation 1 of this section to calculate percent reduction.
(d) *Combination option.* Use Equations 1 through 3 of this section, as applicable, to calculate percent reduction.

§§ 63.5890 How do I calculate a organic HAP emissions factor to demonstrate compliance for continuous lamination/casting operations?
(a) *Compliant line option.* Use Equation 1 of this section to calculate a organic HAP emissions factor in lbs/ton.

(Equation 1)

(Figure)

See Attachment A for Equation 1

Where:
E=HAP emissions factor in lbs/ton of resin and gel coat
WAEu=uncontrolled wet-out area organic HAP emissions, lbs per year
WAEc=controlled wet-out area organic HAP emissions, lbs per year
Ou=uncontrolled oven organic HAP emissions, lbs per year
Oc=controlled oven organic HAP emissions, lbs per year
R=total usage of neat resin plus, tpy

G=total usage of neat gel coat plus, tpy
(b) *Averaging option.* Use Equation 2 of this section to demonstrate compliance.

(Equation 2)

(Figure)

See Attachment A for Equation 2

Where:
E=HAP emissions factor in lbs/ton of resin and gel coat
WAEui=uncontrolled organic HAP emissions from wet-out area i, lbs per year
WAEci=controlled organic HAP emissions from wet-out area i, lbs per year
Ouj=uncontrolled organic HAP emissions from oven j, lbs per year
Ocj=controlled organic HAP emissions from oven j, lbs per year
i=number of wet-out areas
j=number of ovens
m=number of wet-out areas uncontrolled
n=number of ovens uncontrolled
o=number of wet-out areas controlled
p=number of ovens controlled
R=total usage of neat resin plus, tpy
G=total usage of neat gel coat plus, tpy
(c) *Combination option.* Use Equations 1 and 2 of this section, as applicable, to demonstrate compliance.

§§ 63.5895 How do I monitor and collect data to demonstrate continuous compliance?
(a) During production, you must collect and keep a record of data as indicated in 40 CFR part 63, subpart SS, if you are using an add-on control device.
(b) You must monitor and collect data as specified in paragraphs (b)(1) through (4) of this section.
(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times that the affected source is operating.
(2) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes to this subpart, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.
(3) At all times, you must maintain necessary parts for routine repairs of the monitoring equipment.
(4) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring equipment to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
(c) You must collect and keep records of resin and gel coat use, organic HAP content, and operation where the

resin is used if you are meeting any organic HAP emissions limits based on an organic HAP emissions limit in Tables 3 or 5 to this subpart. You must collect and keep records of resin and gel coat use, organic HAP content, and operation where the resin is used if you are meeting any organic HAP content limits in Table 7 to this subpart if you are averaging organic HAP contents. Resin use records may be based on purchase records if you

can reasonably estimate how the resin is applied. The organic HAP content records may be based on MSDS or on resin specifications supplied by the resin supplier.
(d) If you initially demonstrate that all resins and gel coats individually meet the applicable organic HAP emissions limits, or organic HAP content limits, then resin and gel coat use records are not required. However, you must include a statement in each compliance report that all resins and gel coats still meet the organic HAP limits for compliant resins and gel coats shown in Tables 3 or 7 to this subpart. If after this initial demonstration, you change to a higher organic HAP resin or gel coat, or increase the resin or gel coat organic HAP content, or change to a higher-emitting resin or gel coat application method, then you must either again demonstrate that all resins and gel coats still meet the applicable organic HAP emissions limits, or begin collecting resin and gel coat use records and calculate compliance on a 12-month rolling average.
(e) For each of your pultrusion machines, you must record all times that wet area enclosures doors or covers are open and there is resin present in the resin bath.

§§ 63.5900 How do I demonstrate continuous compliance with the standards?
(a) You must demonstrate continuous compliance with each standard in §§ 63.5805 that applies to you according to the methods specified in paragraphs (a)(1) through (3) of this section.
(1) Compliance with organic HAP emissions limits for sources using add-on control devices is demonstrated following the procedures in 40 CFR part 63, subpart SS. Sources using add-on controls may also use continuous emissions monitors to demonstrate continuous compliance as an alternative to control parameter monitoring.
(2) Compliance with organic HAP emissions limits is demonstrated by maintaining a organic HAP emissions factor value less than or equal to the appropriate organic HAP emissions limit listed in Tables 3, or 5 to this subpart, on a 12-month rolling average, or by including in each compliance report a statement that all resins and gel coats meet the appropriate organic HAP emissions limits, as discussed in §§ 63.5895(d).
(3) Compliance with organic HAP content limits in Table 7 to this subpart is demonstrated by maintaining an average organic HAP content value less than or equal to the appropriate organic HAP contents listed in Table 7 to this subpart, on a 12-month rolling average, or by including in each compliance report a statement that all resins and gel coats individually meet the appropriate organic HAP content limits, as discussed in §§ 63.5895(d).
(4) Compliance with the work practice standards in Table 4 to this subpart is demonstrated by performing the work practice required for your operation.
(b) You must report each deviation from each standard in §§ 63.5805 that applies to you. The deviations must be reported according to the requirements in §§ 63.5910.
(c) Except as provided in paragraph (d) of this section, during periods of startup, shutdown or malfunction, you must meet the organic HAP emissions limits and work practice standards that apply to you.
(d) When you use an add-on control device to meet standards in §§ 63.5805, you are not required to meet those standards during periods of startup, shutdown, or malfunction, but you must operate your affected source in accordance with the startup, shutdown, and malfunction plan.
(e) Consistent with §§§§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of malfunction for those affected sources and standards specified in paragraph (d) of this section are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup,

shutdown, and malfunction are violations, according to the provisions in §§ 63.6(e).

§§ 63.5905 What notifications must I submit and when?
(a) You must submit all of the notifications in Table 13 to this subpart that apply to you by the dates specified in Table 13 to this subpart. The notifications are described more fully in 40 CFR part 63, subpart A, referenced in Table 13 to this subpart.
(b) If you change any information submitted in any notification, you must submit the changes in writing to the Administrator within 15 calendar days after the change.

§§ 63.5910 What reports must I submit and when?

(a) You must submit each report in Table 14 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date specified in Table 14 to this subpart and according to paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.5800 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.5800.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.5800.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting requirements pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to § 70.6 (a)(3)(iii)(A) or § 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (6) of this section:

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy,

and completeness of the content of the report.

(3) Date of the report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i).

(5) If there are no deviations from any organic HAP emissions limitations (emissions limit and operating limit) that apply to you, and there are no deviations from the requirements for work practice standards in Table 4 to this subpart, a statement that there were no deviations from the organic HAP emissions limitations or work practice standards during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including a continuous emissions monitoring system (CEMS) and an operating parameter monitoring system were out of control, as specified in § 63.8(c)(7), a statement that there were no periods during which the CMS was out of control during the reporting period.

(d) For each deviation from a organic HAP emissions limitation (i.e., emissions limit and operating limit) and for each deviation from the requirements for work practice standards that occurs at an affected source where you are not using a CMS to comply with the organic HAP emissions limitations or work practice standards in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (4) of this section and in paragraphs (d)(1) and (2) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from a organic HAP emissions limitation (i.e., emissions limit and operating limit) occurring at an affected source where you are using a CMS to comply with the organic HAP emissions limitation in this subpart, you must include the information in paragraphs (c)(1) through (4) of this section and in paragraphs (e)(1) through (12) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a

percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each organic HAP that was monitored at the affected source.

(9) A brief description of the process units.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) You must report if you have exceeded the 100 tpy organic HAP emissions threshold if that exceedance would make your facility subject to § 63.5805(b) or (d). Include with this report any request for an exemption under § 63.5805(e). If you receive an exemption under § 63.5805(e) and subsequently exceed the 100 tpy organic HAP emissions threshold, you must report this exceedance as required in § 63.5805(f).

(g) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by § 70.6(a)(3)(iii)(A) or § 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 14 to this subpart along with, or as part of, the semiannual monitoring report required by § 70.6(a)(3)(iii)(A) or § 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any organic HAP emissions limitation (including any operating limit) or work practice requirement in this subpart, submission of the compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

(h) Submit compliance reports and startup, shutdown, and malfunction reports based on the requirements in Table 14 to this subpart, and not based on the requirements in § 63.999.

§§ 63.5915 What records must I keep?
(a) You must keep the records listed in paragraphs (a)(1) through (3) of this section.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §§ 63.10(b)(2)(xiv).
(2) The records in §§ 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
(3) Records of performance tests, design, and performance evaluations as required in §§ 63.10(b)(2).

(b) If you use an add-on control device, you must keep all records required in 40 CFR part 63, subpart SS, to show continuous compliance with this subpart.
(c) You must keep all data, assumptions, and calculations used to determine organic HAP emissions factors or average organic HAP contents for operations listed in Tables 3, 5, and 7 to this subpart.

(d) You must keep a certified statement that you are in compliance with the work practice requirements in Table 4 to this subpart, as applicable.
(e) For a new or existing continuous lamination/casting operation, you must keep the records listed in paragraphs (e)(1) through (4) of this section, when complying with the percent reduction and/or lbs/ton requirements specified in paragraphs (a) through (d) of §§ 63.5805.
(1) You must keep all data, assumptions, and calculations used to determine percent reduction and/or lbs/ton as applicable;
(2) You must keep a brief description of the rationale for the assignment of an equation or factor to each formula;
(3) When using facility-specific organic HAP emissions estimation equations or factors, you must keep all data, assumptions, and calculations used to derive the organic HAP emissions estimation equations and factors and identification and rationale for the worst-case formula; and
(4) For all organic HAP emissions estimation equations and organic HAP emissions factors, you must keep documentation that the appropriate permitting authority has approved them.

§§ 63.5920 In what form and how long must I keep my records?
(a) You must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to §§ 63.10(b)(1).
(b) As specified in §§ 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §§ 63.10(b)(1). You can keep the records offsite for the remaining 3 years.
(d) You may keep records in hard copy or computer readable form including, but not limited to, paper, microfilm, computer floppy disk, magnetic tape, or microfiche.

§§ 63.5925 What parts of the General Provisions apply to me?
Table 15 to this subpart shows which parts of the General Provisions in §§§§ 63.1 through 63.15 apply to you.

§§ 63.5930 Who implements and enforces this subpart?
(a) This subpart can be administered by us, the EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to administer and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.
(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are not delegated.
(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section:
(1) Approval of alternatives to the organic HAP emissions standards in §§ 63.5805 under §§ 63.6(g).
(2) Approval of major changes to test methods under §§ 63.7(e)(2)(ii) and (f) and as defined in §§ 63.90.

(3) Approval of major changes to monitoring under §§ 63.8(f) and as defined in §§ 63.90.
(4) Approval of major changes to record keeping and reporting under §§ 63.10(f) and as defined in §§ 63.90.

§§ 63.5935 What definitions apply to this subpart?
Terms used in this subpart are defined in the CAA, in 40 CFR 63.2, and in this section as follows:
Atomized mechanical application means application of resin or gel coat with spray equipment that separates the liquid into a fine mist. This fine mist may be created by forcing the liquid under high pressure through an elliptical orifice, bombarding a liquid stream with directed air jets, or a combination of these techniques.
Bulk molding compound (BMC) means a putty-like molding compound containing resin(s) in a form that is ready to mold. In addition to resins, BMC may contain catalysts, fillers, and reinforcements. Bulk molding compound can be used in compression molding and injection molding operations to manufacture reinforced plastic composites products.
BMC manufacturing means a process that involves the preparation of BMC.
Centrifugal casting means a process for fabricating cylindrical composites, such as pipes, in which composite materials are positioned inside a rotating hollow mandrel and held in place by centrifugal forces until the part is sufficiently cured to maintain its physical shape.
Charge means the amount of SMC or BMC that is placed into a compression or injection mold necessary to complete one mold cycle.
Cleaning means removal of composite materials, such as cured and uncured resin from equipment, finished surfaces, floors, hands of employees, or any other surfaces.
Clear production gel coat means an unpigmented, quick-setting resin used to improve the surface appearance and/or performance of composites. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.
Closed molding means a grouping of processes for fabricating composites in a way that HAP-containing materials are not exposed to the atmosphere except during the material loading stage (*e.g.*, compression molding, injection molding, and resin transfer molding). Processes where the mold is covered with plastic (or equivalent material) prior to resin application, and the resin is injected into the covered mold are also considered closed molding.
Composite means a shaped and cured part produced by using composite materials.
Composite materials means the raw materials used to make composites. The raw materials include styrene containing resins. They may also include gel coat, monomer, catalyst, pigment, filler, and reinforcement.
Compression molding means a closed molding process for fabricating composites in which composite materials are placed inside matched dies that are used to cure the materials under heat and pressure without exposure to the atmosphere. The addition of mold paste or in-mold coating is considered part of the closed molding process. The composite materials used in this process are generally SMC or BMC.
Compression/injection molding means a grouping of processes that involves the use of compression molding and/or injection molding.
Continuous casting means a continuous process for fabricating composites in which composite materials are placed on an in-line conveyor belt to produce cast sheets that are cured in an oven.
Continuous lamination means a continuous process for fabricating composites in which composite materials are typically sandwiched between plastic films, pulled through compaction rollers, and cured in an oven. This process is generally used to produce flat or corrugated products on an in-line conveyor.
Continuous lamination/casting means a grouping of processes that involves the use of continuous lamination

and/or continuous casting.
Controlled emissions means those organic HAP emissions that are vented from a control device to the atmosphere.
Corrosion-resistant gel coat means a gel coat used on a product made with a corrosion-resistant resin that has a corrosion-resistant end-use application.

Corrosion-resistant end-use applications means applications where the product is manufactured specifically for an application that requires a level of chemical inertness or resistance to chemical attack above that required for typical reinforced plastic composites products. These applications include, but are not limited to, chemical processing and storage; pulp and paper production; sewer and wastewater treatment; power generation; potable water transfer and storage; food and drug processing; pollution or odor control; metals production and plating; semiconductor manufacturing; petroleum production, refining, and storage; mining; textile production; nuclear materials storage; swimming pools; and cosmetic production, as well as end-use applications that require high strength resins.
Corrosion-resistant industry standard includes the following standards: ASME RTP-1 or Sect. X; ASTM D5364, D3299, D4097, D2996, D2997, D3262, D3517, D3754, D3840, D4024, D4160, D4161, D4162, D4184, D3982, or D3839; ANSI/AWWA C950; UL 215, 1316 or 1746, IAPMO PS-199, or written customer requirements for resistance to specified chemical environments.
Corrosion-resistant product means a product made with a corrosion-resistant resin and is manufactured to a corrosion-resistant industry standard, or a food contact industry standard, or is manufactured for corrosion-resistant end-use applications involving continuous or temporary chemical exposures.
Corrosion-resistant resin means a resin that either:
(1) Displays substantial retention of mechanical properties when undergoing ASTM C-581 coupon testing, where the resin is exposed for 6 months or more to one of the following materials: Material with a pH ≥= 12.0 or ≤= 3.0, oxidizing or reducing agents, organic solvents, or fuels or additives as defined in 40 CFR 79.2. In the coupon testing, the exposed resin needs to demonstrate a minimum of 50 percent retention of the relevant mechanical property compared to the same resin in unexposed condition. In addition, the exposed resin needs to demonstrate an increased retention of the relevant mechanical property of at least 20 percentage points when compared to a similarly exposed general-purpose resin. For example, if the general-purpose resin retains 45 percent of the relevant property when tested as specified above, then a corrosion-resistant resin needs to retain at least 65 percent (45 percent plus 20 percent) of its property. The general-purpose resin used in the test needs to have an average molecular weight of greater than 1,000, be formulated with a 1:2 ratio of maleic anhydride to phthalic anhydride and 100 percent diethylene glycol, and a styrene content between 43 to 48 percent; or
(2) Complies with industry standards that require specific exposure testing to corrosive media, such as UL 1316, UL 1746, or ASTM F-1216.
Doctor box means the box or trough on an SMC machine into which the liquid resin paste is delivered before it is metered onto the carrier film.
Filament application means an open molding process for fabricating composites in which reinforcements are fed through a resin bath and wound onto a rotating mandrel. The materials on the mandrel may be rolled out or worked by using nonmechanical tools prior to curing. Resin application to the reinforcement on the mandrel by means other than the resin bath, such as spray guns, pressure-fed rollers, flow coaters, or brushes is not considered filament application.
Filled Resin means that fillers have been added to a resin such that the amount of inert substances is at least 10 percent by weight of the total resin plus filler mixture. Filler putty made from a resin is considered a filled resin.
Fillers means inert substances dispersed throughout a resin, such as calcium carbonate, alumina trihydrate, hydrous aluminum silicate, mica, feldspar, wollastonite, silica, and talc. Materials that are not considered to be

fillers are glass fibers or any type of reinforcement and microspheres.
Fire retardant gel coat means a gel coat used for products for which low-flame spread/low-smoke resin is used.
Fluid impingement technology means a spray gun that produces an expanding non-misting curtain of liquid by the impingement of low-pressure uninterrupted liquid streams.

Food contact industry standard means a standard related to food contact application contained in Food and Drug Administration's regulations at 21 CFR 177.2420.
Gel Coat means a quick-setting resin used to improve surface appearance and/or performance of composites. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.
Gel coat application means a process where either clear production, pigmented production, white/off-white or tooling gel coat is applied.
HAP-containing materials storage means an ancillary process which involves keeping HAP-containing materials, such as resins, gel coats, catalysts, monomers, and cleaners, in containers or bulk storage tanks for any length of time. Containers may include small tanks, totes, vessels, and buckets.
High Performance gel coat means a gel coat used on products for which National Science Foundation, United States Department of Agriculture, ASTM, durability, or other property testing is required.
High strength gel coat means a gel coat applied to a product that requires high strength resin.
High strength resins means polyester resins which have a casting tensile strength of 10,000 pounds per square inch or more and which are used for manufacturing products that have high strength requirements such as structural members and utility poles.
Injection molding means a closed molding process for fabricating composites in which composite materials are injected under pressure into a heated mold cavity that represents the exact shape of the product. The composite materials are cured in the heated mold cavity.
Low Flame Spread/Low Smoke Products means products that meet the following requirements. The products must meet both the applicable flame spread requirements and the applicable smoke requirements. Interior or exterior building application products must meet an ASTM E-84 Flame Spread Index of less than or equal to 25, and Smoke Developed Index of less than or equal to 450, or pass National Fire Protection Association 286 Room Corner Burn Test with no flash over and total smoke released not exceeding 1000 meters square. Mass transit application products must meet an ASTM E-162 Flame Spread Index of less than or equal to 35 and ASTM E662 Smoke Density Ds @ 1.5 minutes less than or equal to 100 and Ds @ 4 minutes less than to equal to 200. Duct application products must meet ASTM E084 Flame Spread Index less than or equal to 25 and Smoke Developed Index less than or equal to 50 on the interior and/or exterior of the duct.
Manual resin application means an open molding process for fabricating composites in which composite materials are applied to the mold by pouring or by using hands and nonmechanical tools, such as brushes and rollers. Materials are rolled out or worked by using nonmechanical tools prior to curing. The use of pressure-fed rollers and flow coaters to apply resin is not considered manual resin application.
Mechanical resin application means an open molding process for fabricating composites in which composite materials (except gel coat) are applied to the mold by using mechanical tools such as spray guns, pressure-fed rollers, and flow coaters. Materials are rolled out or worked by using nonmechanical tools prior to curing.
Mixing means the blending or agitation of any HAP-containing materials in vessels that are 5.00 gallons (18.9 liters) or larger. Mixing may involve the blending of resin, gel coat, filler, reinforcement, pigments, catalysts, monomers, and any other additives.
Mold means a cavity or matrix into or onto which the composite materials are placed and from which the product takes its form.
Neat gel coat means the resin as purchased for the supplier, but not including any inert fillers.

Neat gel coat plus means neat gel coat plus any organic HAP-containing materials that are added to the gel coat by the supplier or the facility, excluding catalysts and promoters. Neat gel coat plus does include any additions of styrene or methyl methacrylate monomer in any form, including in catalysts and promoters.
Neat resin means the resin as purchased from the supplier, but not including any inert fillers.

Neat resin plus means neat resin plus any organic HAP-containing materials that are added to the resin by the supplier or the facility. Neat resin plus does not include any added filler, reinforcements, catalysts, or promoters. Neat resin does include any additions of styrene or methyl methacrylate monomer in any form, including in catalysts and promoters.
Nonatomized mechanical application means the use of application tools other than brushes to apply resin and gel coat where the application tool has documentation provided by its manufacturer or user that this design of the application tool has been organic HAP emissions tested, and the test results showed that use of this application tool results in organic HAP emissions that are no greater than the organic HAP emissions predicted by the applicable nonatomized application equation(s) in Table 1 to this subpart. In addition, the device must be operated according to the manufacturer's directions, including instructions to prevent the operation of the device at excessive spray pressures. Examples of nonatomized application include flow coaters, pressure fed rollers, and fluid impingement spray guns.
Noncorrosion-resistant resin means any resin other than a corrosion-resistant resin or a tooling resin.
Noncorrosion-resistant product means any product other than a corrosion-resistant product or a mold.
Non-routine manufacture means that you manufacture parts to replace worn or damaged parts of a reinforced plastic composites product, or a product containing reinforced plastic composite parts, that was originally manufactured in another facility. For a part to qualify as non-routine manufacture, it must be used for repair or replacement, and the manufacturing schedule must be based on the current or anticipated repair needs of the reinforced plastic composites product, or a product containing reinforced plastic composite parts.
Operation means a specific process typically found at a reinforced plastic composites facility. Examples of operations are noncorrosion-resistant manual resin application, corrosion-resistant mechanical resin application, pigmented gel coat application, mixing and HAP-containing materials storage.
Operation group means a grouping of individual operations based primarily on mold type. Examples are open molding, closed molding, and centrifugal casting.
Open molding means a process for fabricating composites in a way that HAP-containing materials are exposed to the atmosphere. Open molding includes processes such as manual resin application, mechanical resin application, filament application, and gel coat application. Open molding also includes application of resins and gel coats to parts that have been removed from the open mold.
Pigmented gel coat means a gel coat that has a color, but does not contain 10 percent of more titanium dioxide by weight. It can be used to form the surface layer of any composites other than those used for molds in tooling operations.
Polymer casting means a process for fabricating composites in which composite materials are ejected from a casting machine or poured into an open, partially open, or closed mold and cured. After the composite materials are poured into the mold, they are not rolled out or worked while the mold is open. The composite materials may or may not include reinforcements. Products produced by the polymer casting process include cultured marble products and polymer concrete.
Preform Injection means a form of pultrusion where liquid resin is injected to saturate reinforcements in an enclosed system containing one or more chambers with openings only large enough to admit reinforcements. Resin, which drips out of the chamber(s) during the process, is collected in closed piping or covered troughs and then into a covered reservoir for recycle. Resin storage vessels, reservoirs, transfer systems, and collection

systems are covered or shielded from the ambient air. Preform injection differs from direct die injection in that the injection chambers are not directly attached to the die.
Prepreg materials means reinforcing fabric received precoated with resin which is usually cured through the addition of heat.

Pultrusion means a continuous process for manufacturing composites that have a uniform cross-sectional shape. The process consists of pulling a fiber-reinforcing material through a resin impregnation chamber or bath and through a shaping die, where the resin is subsequently cured. There are several types of pultrusion equipment, such as open bath, resin injection, and direct die injection equipment.
Repair means application of resin or gel coat to a part to correct a defect, where the resin or gel coat application occurs after the part has gone through all the steps of its typical production process, or the application occurs outside the normal production area. For purposes of this subpart, rerouting a part back through the normal production line, or part of the normal production line, is not considered repair.
Resin transfer molding means a process for manufacturing composites whereby catalyzed resin is transferred or injected into a closed mold in which fiberglass reinforcement has been placed.
Sheet molding compound (SMC) means a ready-to-mold putty-like molding compound that contains resin(s) processed into sheet form. The molding compound is sandwiched between a top and a bottom film. In addition to resin(s), it may also contain catalysts, fillers, chemical thickeners, mold release agents, reinforcements, and other ingredients. Sheet molding compound can be used in compression molding to manufacture reinforced plastic composites products.
Shrinkage controlled resin means a resin that when promoted, catalyzed, and filled according to the resin manufacturer's recommendations demonstrates less than 0.3 percent linear shrinkage when tested according to ASTM D2566.
SMC manufacturing means a process which involves the preparation of SMC.
Tooling gel coat means a gel coat that is used to form the surface layer of molds. Tooling gel coats generally have high heat distortion temperatures, low shrinkage, high barcol hardness, and high dimensional stability.
Tooling resin means a resin that is used to produce molds. Tooling resins generally have high heat distortion temperatures, low shrinkage, high barcol hardness, and high dimensional stability.
Uncontrolled oven organic HAP emissions means those organic HAP emissions emitted from the oven through closed vent systems to the atmosphere and not to a control device. These organic HAP emissions do not include organic HAP emissions that may escape into the workplace through the opening of panels or doors on the ovens or other similar fugitive organic HAP emissions in the workplace.
Uncontrolled wet-out area organic HAP emissions means any or all of the following: Organic HAP emissions from wet-out areas that do not have any capture and control, organic HAP emissions that escape from wet-out area enclosures, and organic HAP emissions from wet-out areas that are captured by an enclosure but are vented to the atmosphere and not to an add-on control device.
Unfilled means that there has been no addition of fillers to a resin or that less than 10 percent of fillers by weight of the total resin plus filler mixture has been added.
Vapor suppressant means an additive, typically a wax, that migrates to the surface of the resin during curing and forms a barrier to seal in the styrene and reduce styrene emissions.
Vapor-suppressed resin means a resin containing a vapor suppressant added for the purpose of reducing styrene emissions during curing.
White and off-white gel coat means a gel coat that contains 10 percent of more titanium dioxide by weight.

TABLE 1 TO SUBPART WWWW OF PART 63—EQUATIONS TO CALCULATE ORGANIC HAP EMISSIONS FACTORS FOR SPECIFIC OPEN MOLDING AND CENTRIFUGAL CASTING PROCESS STREAMS—Continued

[As required in §§ 63.5796, 63.5799(a)(1) and (b), and 63.5810(a)(1), to calculate organic HAP emissions factors for specific open molding and centrifugal casting process streams you must use the equations in the following table:]

If your operation type is a new or existing . . .	And you use . . .	With . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with less than 33 percent organic HAP (19 percent organic HAP for nonatomized gel coat) [1 2 3] . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with 33 percent or more organic HAP (19 percent for nonatomized gel coat) [1 2 3] . . .
2. Centrifugal casting operations. [7 8]	Heated air blown through molds.	Nonvapor-suppressed resin.	EF = 0.558 × (%HAP) × 2000.	EF = 0.558 × (%HAP) × 2000.
	Vented molds, but air vented through the molds is not heated.	Nonvapor-suppressed resin.	EF = 0.026 × (%HAP) × 2000.	EF = 0.026 × (%HAP) × 2000.

Footnotes to Table 1

[1] To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of § 63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.

[2] Percent HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, *i.e.* 33 percent HAP should be input as 0.33, not 33.

[3] The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to this subpart.

[4] This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.

[5] Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.

[6] Do not use this equation for determining compliance with emission limits in Tables 3 or 5 to this subpart. To determine compliance with emission limits you must treat all gel coat as if it were applied as part of your gel coat spray application operations. If you apply gel coat by manual techniques only, you must treat the gel coat as if it were applied with atomized spray and use Equation 1.f. to determine compliance with the appropriate emission limits in Tables 3 or 5 to this subpart. To estimate emissions from manually applied gel coat, you may either include the gel coat quantities you apply manually with the quantities applied using spray, or use this equation to estimate emissions from the manually applied portion of your gel coat.

[7] These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.

		resin.	2000.	%HAP) − 0.0529) × 2000
		ii. Vapor-suppressed resin	EF = 0.126 × % HAP × 2000 × (1 − (0.5 × VSE factor)).	EF = ((0.286 × %HAP) − 0.0529) × 2000 × (1 − (0.5 × VSE factor))
		iii. Vacuum bagging/closed-mold curing with roll out.	EF = 0.126 × % HAP × 2000 × 0.8.	EF = ((0.286 × %HAP) − 0.0529) × 2000 × 0.8
		iv. Vacuum bagging/closed-mold curing without roll-out.	EF = (0.126 × % HAP × 2000 × 0.5.	EF = ((0.286 × %HAP) − 0.0529) × 2000 × 0.5
	b. Atomized mechanical resin application.	i. Nonvapor-suppressed resin.	EF = 0.169 × %HAP × 2000.	EF = ((0.714 × %HAP) − 0.18) × 2000
		ii. Vapor-suppressed resin	EF = 0.169 × %HAP × 2000 × (1 − (0.45 × VSE factor)).	EF = ((0.714 × %HAP) − 0.18) × 2000 × (1 − (0.45 × VSE factor))

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centrifugal casting process streams you must use the equations in the following table:]

If your operation type is a new or existing . . .	And you use . . .	With . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with less than 33 percent organic HAP (19 percent organic HAP for nonatomized gel coat) [1 2 3] . . .	Use this organic HAP Emissions Factor (EF) Equation for materials with 33 percent or more organic HAP (19 percent for nonatomized gel coat) [1 2 3] . . .
2. Centrifugal casting operations. [7 8].	Heated air blown through molds.	Nonvapor-suppressed resin.	EF = 0.558 x (%HAP) x 2000.	EF = 0.558 x (%HAP) x 2000.
	Vented molds, but air vented through the molds is not heated.	Nonvapor-suppressed resin.	EF = 0.026 x (%HAP) x 2000.	EF = 0.026 x (%HAP) x 2000.

Footnotes to Table 1

[1] To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of § 63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.

[2] Percent HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, *i.e.* 33 percent HAP should be input as 0.33, not 33.

[3] The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to this subpart.

[4] This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.

[5] Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.

[6] Do not use this equation for determining compliance with emission limits in Tables 3 or 5 to this subpart. To determine compliance with emission limits you must treat all gel coat as if it were applied as part of your gel coat spray application operations. If you apply gel coat by manual techniques only, you must treat the gel coat as if it were applied with atomized spray and use Equation 1.f. to determine compliance with the appropriate emission limits in Tables 3 or 5 to this subpart. To estimate emissions from manually applied gel coat, you may either include the gel coat quantities you apply manually with the quantities applied using spray, or use this equation to estimate emissions from the manually applied portion of your gel coat.

[7] These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.

		resin.	2000.	%HAP) − 0.0529) x 2000
		ii. Vapor-suppressed resin	EF = 0.126 x % HAP x 2000 x (1 − (0.5 x VSE factor)).	EF = ((0.286 x %HAP) − 0.0529) x 2000 x (1 − (0.5 x VSE factor))
		iii. Vacuum bagging/ closed-mold curing with roll out.	EF = 0.126 x % HAP x 2000 x 0.8.	EF = ((0.286 x %HAP) − 0.0529) x 2000 x 0.8
		iv. Vacuum bagging/ closed-mold curing without roll-out.	EF = (0.126 x % HAP x 2000 x 0.5.	EF = ((0.286 x %HAP) − 0.0529) x 2000 x 0.5
	b. Atomized mechanical resin application.	i. Nonvapor-suppressed resin.	EF = 0.169 x %HAP x 2000.	EF = ((0.714 x %HAP) − 0.18) x 2000
		ii. Vapor-suppressed resin	EF = 0.169 x %HAP x 2000 x (1 − (0.45 x VSE factor)).	EF = ((0.714 x %HAP) − 0.18) x 2000 x (1 − (0.45 x VSE factor))

TABLE 3 TO SUBPART WWWW OF PART 63.—ORGANIC HAP EMISSIONS LIMITS FOR EXISTING OPEN MOLDING

For . . .	You must . . .
1. A new or existing closed molding operation using compression/injection molding.	Uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting.
2. A new or existing cleaning operation	Not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin.
3. A new or existing materials HAP-containing materials storage operation.	Keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.
4. An existing or new SMC manufacturing operation.	Close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open.
5. An existing or new SMC manufacturing operation.	Use a nylon containing film to enclose SMC.
6. An existing or new mixing or BMC manufacturing operation.	Use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation.
7. An existing mixing or BMC manufacturing operation.	Close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety.
8. A new or existing mixing or BMC manufacturing operation [1].	Keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.

	c. All other pigmented gel coating	377 lb/ton	37.0.
	d. CR/HS or high performance gel coat.	605 lb/ton	48.0.
	e. Fire retardant gel coat	854 lb/ton	60.0.
	f. Clear production gel coat	522 lb/ton	44.0.
7. Centrifugal casting—CR/HS [4] [5]	N/A	25 lb/ton	48.0.
8. Centrifugal casting—non-CR/HS [4] [5].	N/A	20 lb/ton	37.5.
9. Pultrusion [6]	N/A	Reduce total organic HAP emissions by at least 60 weight percent.	NA.
10. Continuous lamination/casting	N/A	Reduce total organic HAP emissions by at least 58.5 weight percent or not exceed a organic HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.	NA.

Footnotes to Table 3

[1] Organic HAP emissions limits for open molding and centrifugal casting are expressed as lb/ton. You must be at or below these values based on a 12-month rolling average.

[2] A compliant resin or gel coat means that if its organic HAP content is used to calculate an organic HAP emissions factor, the factor calculated does not exceed the appropriate organic HAP emissions limit shown in the table.

[3] These limits are for spray application of gel coat. Manual gel coat application must be included as part of spray gel coat application for compliance purposes using the same organic HAP emissions factor equation and organic HAP emissions limit. If you only apply gel coat with manual application, treat the manually applied gel coat as if it were applied with atomized spray for compliance determinations.

[4] Centrifugal casting operations where the mold is not vented during spinning and cure are considered to be closed molding and are not subject to any emissions limit. Centrifugal casting operations where the mold is not vented during spinning and cure, and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques are considered to be open molding operations and the appropriate open molding emission limits apply.

[5] Centrifugal casting operations where the mold is vented during spinning and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques, use the appropriate centrifugal casting emission limit to determine compliance. Calculate your emission factor using the appropriate centrifugal casting emission factor in Table 1 to this subpart, or a site specific emission factor as discussed in § 63.5796.

[6] Pultrusion machines that produce parts with 1000 or more reinforcements and a cross sectional area of 60 inches or more are not subject to this requirement. Their requirement is the work practice of air flow management which is described in Table 4 to this subpart.

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For . . .	You must . . .
1. A new or existing closed molding operation using compression/injection molding.	Uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting.
2. A new or existing cleaning operation	Not use cleaning solvents that contain HAP, except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin.
3. A new or existing materials HAP-containing materials storage operation.	Keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.
4. An existing or new SMC manufacturing operation.	Close or cover the resin delivery system to the doctor box on each SMC manufacturing machine. The doctor box itself may be open.
5. An existing or new SMC manufacturing operation.	Use a nylon containing film to enclose SMC.
6. An existing or new mixing or BMC manufacturing operation.	Use mixer covers with no visible gaps present in the mixer covers, except that gaps of up to 1 inch are permissible around mixer shafts and any required instrumentation.
7. An existing mixing or BMC manufacturing operation.	Close any mixer vents when actual mixing is occurring, except that venting is allowed during addition of materials, or as necessary prior to adding materials or opening the cover for safety.
8. A new or existing mixing or BMC manufacturing operation [1].	Keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.
9. A new or existing pultrusion operation manufacturing parts with 1,000 or more reinforcements and a cross section area of 60 square inches or more that is not subject to the 95 percent organic HAP emission reduction requirement.	i. Not allow vents from the building ventilation system, or local or portable fans to blow directly on or across the wet-out area(s), ii. Not permit point suction of ambient air in the wet-out area(s) unless that air is directed to a control device, iii. Use devices such as deflectors, baffles, and curtains when practical to reduce air flow velocity across the wet-out area(s), iv. Direct any compressed air exhausts away from resin and wet-out area(s), v. convey resin collected from drip-off pans or other devices to reservoirs, tanks, or sumps via covered troughs, pipes, or other covered conveyance that shields the resin from the ambient air, vi. Cover all reservoirs, tanks, sumps, or HAP-containing materials storage vessels except when they are being charged or filled, and vii. Cover or shield from ambient air resin delivery systems to the wet-out area(s) from reservoirs, tanks, or sumps where practical.

[1] Containers of 5 gallons or less may be open when active mixing is taking place, or during periods when they are in process (*i.e.*, they are actively being used to apply resin). For polymer casting mixing operations, containers with a surface area of 500 square inches or less may be open while active mixing is taking place.

the 95 percent organic HAP emissions reductions requirement, you may meet the appropriate organic HAP emissions limits in the following table:]

If your operation type is . . .	And you use . . .	LYour organic HAP emissions limit is a[1]. . .
1. Open molding—corrosion-resistant and/or high strength (CR/HS).	a. Mechanical resin application	6 lb/ton.
	b. Filament application	9 lb/ton.
	c. Manual resin application	7 lb/ton.
2. Open molding—non-CR/HS	a. mechanical resin application	13 lb/ton.
	b. Filament application	10 lb/ton.
	c. Manual resin application	5 lb/ton.
3. Open molding—tooling	a. Mechanical resin application	13 lb/ton.
	b. Manual resin application	8 lb/ton.
4. Open molding—low flame spread/low smoke products	a. Mechanical resin application	25 lb/ton.
	b. Filament application	14 lb/ton.
	c. Manual resin application	12 lb/ton.
5. Open molding—shrinkage controlled resins	a. Mechanical resin application	18 lb/ton.
	b. Filament application	11 lb/ton.
	c. Manual resin application	9 lb/ton.
6. Open molding—gel coat[2]	a. Tooling gel coating	22 lb/ton.
	b. White/off white pigmented gel coating	22 lb/ton.
	c. All other pigmented gel coating	19 lb/ton.
	d. CR/HS or high performance gel coat	31 lb/ton.
	e. Fire retardant gel coat	43 lb/ton.
	f. Clear production gel coat	27 lb/ton.
7. Centrifugal casting—CR/HS[3 4]	A vent system that moves heated air through the mold	27 lb/ton.
8. Centrifugal casting—non-CR/HS[3 4]	A vent system that moves heated air through the mold	21 lb/ton.
7. Centrifugal casting—CR/HS[3 4]	A vent system that moves ambient air through the mold	2 lb/ton.
8. Centrifugal casting—non-CR/HS[3 4]	A vent system that moves ambient air through the mold	1 lb/ton.
9. SMC Manufacturing	N/A	2.4 lb/ton.

[1] Organic HAP emissions limits for open molding and centrifugal casting expressed as lb/ton are calculated using the equations shown in Table 1 to this subpart. You must be at or below these values based on a 12-month rolling average.

[2] These limits are for spray application of gel coat. Manual gel coat application must be included as part of spray gel coat application for compliance purposes using the same organic HAP emissions factor equation and organic HAP emissions limit. If you only apply gel coat with manual application, treat the manually applied gel coat as if it were applied with atomized spray for compliance determinations.

[3] Centrifugal casting operations where the mold is not vented during spinning and cure are considered to be closed molding and are not subject to any emissions limit. Centrifugal casting operations where the mold is not vented during spinning and cure, and the resin is applied to the open centrifugal casting mold using mechanical or manual open molding resin application techniques are considered to be open molding operations and the appropriate open molding emission limits apply.

TABLE 6 TO SUBPART WWWW OF PART 63—BASIC REQUIREMENTS FOR PERFORMANCE TESTS. PERFORMANCE

For . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each enclosure used to collect and route organic HAP emissions to an add-on control device that is a PTE.	Meet the requirements for a PTE	EPA method 204 of appendix M of 40 CFR part 51.	Enclosures that meet the requirements of EPA Method 204 of appendix M of 40 CFR part 51 for a PTE are assumed to have a capture efficiency of 100%. Note that the criteria that all access doors and windows that are not treated as natural draft openings shall be closed during routine operation of the process is not intended to require that these doors and windows be closed at all times. It means that doors and windows must be closed any time that you are not actually moving parts or equipment through them. Also, any styrene retained in hollow parts and liberated outside the PTE is not considered to be a violation of the EPA Method 204 criteria.
2. Each enclosure used to collect and route organic HAP emissions to an add-on control device that is not a PTE.	a. Determine the capture efficiency of each enclosure used to capture organic HAP emissions sent to an add-on control device.	i. EPA methods 204B through E of appendix M of 40 CFR part 51, or	(1) Enclosures that do not meet the requirements for a PTE must determine the capture efficiency by constructing a temporary total enclosure according to the requirements of EPA Method 204 of appendix M of 40 CFR part 51 and measuring the mass flow rates of the organic HAP in the exhaust streams going to the atmosphere and to the control device. Test runs for EPA Methods 204B through E of appendix M of 40 CFR part 51 must be at least 3 hours.
		ii. An alternative test method that meets the requirements in 40 CFR part 51, appendix M.	(1) The alternative test method must the data quality objectives and lower confidence limit approaches for alternative capture efficiency protocols requirements contained in 40 CFR part 63 subpart KK, appendix A.
3. Each control device used to comply with a percent reduction requirement, or a organic HAP emissions limit.	Determine the control efficiency of each control device used to control organic HAP emissions.	The test methods specified in §63.5850 to this subpart.	Testing and evaluation requirements are contained in 40 CFR part 63, subpart SS, and §63.5850 to this subpart.
4. Determining organic HAP emission factors for any operation.	Determine the mass organic HAP emissions rate.	The test methods specified in §63.5850 to this subpart.	Testing and evaluation requirements are contained in 40 CFR part 63, subpart SS, and §63.5850 to this subpart.

TABLE 7 TO SUBPART WWWW OF PART 63.—OPTIONS ALLOWING USE OF THE SAME RESIN ACROSS DIFFERENT

If your facility has the following resin type and application method . . .	The highest resin weight percent organic HAP content, or weighted average weight percent organic HAP content, you can use for . . .	Is . . .
1. CR/HS resins, centrifugal casting	a. CR/HS mechanical	48.0
	b. CR/HS filament application	48.0
	c. CR/HS manual	48.0
2. CR/HS resins, nonatomized mechanical	a. CR/HS filament application	46.2
	b. CR/HS manual	46.2
3. CR/HS resins, filament application	CR/HS manual	42.0
4. Non-CR/HS resins, filament application	a. non-CR/HS mechanical	45.0
	b. non-CR/HS manual	45.0
	c. non-CR/HS centrifugal casting	45.0
5. Non-CR/HS resins, nonatomized mechanical	a. Non-CR/HS manual	38.4
	b. non-CR/HS centrifugal casting	38.4
6. Non-CR/HS resins, centrifugal casting	Non-CR/HS manual	37.5
7. Tooling resins, nonatomized mechanical	Tooling manual	91.4
8. Tooling resins, manual	Tooling atomized mechanical	45.9

TABLE 8 TO SUBPART WWWW OF PART 63.—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSIONS LIMITS

[As required in § 63.5860(a), you must demonstrate initial compliance with organic HAP emissions limits as specified in the following table:]

For . . .	That must meet the following organic HAP emissions limit . . .	You have demonstrated initial compliance if . . .
1. Open molding and centrifugal casting operations.	a. An organic HAP emissions limit shown in Tables 3 or 5 to this subpart, or an organic HAP content limit shown in Table 7 to this subpart.	i. You have met the appropriate organic HAP emissions limits for these operations as calculated using the procedures in § 63.5810 on a 12-month rolling average 1 year after the appropriate compliance date, or ii. You demonstrate by using the appropriate values in Tables 3, or 7 to this subpart that all resins and gel coats considered individually meet the appropriate organic HAP contents, or iii. You demonstrate by using the appropriate values in Table 7 to this subpart that the weighted average of all resins and gel coats for each resin type and application method meet the appropriate organic HAP contents.
2. Open molding, centrifugal casting, continuous lamination/casting, SMC and BMC manufacturing, and mixing operations.	a. Reduce total organic HAP emissions, by at least 95 percent by weight.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 95 percent by weight.
3. Continuous lamination/casting operations	a. Reduce total organic HAP emissions by at least 58.5 weight percent, or.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart and the calculation procedures specified in §§ 63.5865 through 63.5890, are reduced by at least 58.5 percent by weight.
	b. Not exceed an HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart and the calculation procedures specified in §§ 63.5865 through 63.5890, do not exceed 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.

TABLE 8 TO SUBPART WWWW OF PART 63.—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSIONS LIMITS—Continued

4. Continuous lamination/casting operations	a. Reduce total organic HAP emissions by at least 95 weight percent or	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 to this subpart, and the calculation procedures specified in §§ 63.5865 through 63.5890, are reduced by at least 95 percent by weight.
	b. Not exceed an organic HAP emissions limit of 1.47 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.	Total organic HAP emissions, based on the results of the capture efficiency and destruction efficiency testing specified in Table 6 and the calculation procedures specified in §§ 63.5865 through 63.5890, do not exceed 1.47 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.
5. Pultrusion operations	a. Reduce total organic HAP emissions by at least 60 percent by weight.	i. Total organic HAP emissions, based on the results of the capture efficiency and add-on control device destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 60 percent by weight and ii. As part of the notification of initial compliance status, the owner/operator submits a certified statement that all pultrusion lines not controlled with an add-on control device are using direct die injection, preform injection, and/or wet-area enclosures that meet the criteria of § 63.5830.
6. Pultrusion operations	a. Reduce total organic HAP emissions by at least 95 percent by weight.	i. Total organic HAP emissions, based on the results of the capture efficiency and add-on control device destruction efficiency testing specified in Table 6 to this subpart, are reduced by at least 95 percent by weight.

TABLE 9 TO SUBPART WWWW OF PART 63.—INITIAL COMPLIANCE WITH WORK PRACTICE STANDARDS

[As required in § 63.5860(a), you must demonstrate initial compliance with work practice standards as specified in the following table:]

For . . .	That must meet the following standard . . .	You have demonstrated initial compliance if . . .
1. A new or existing closed or molding operation using compression/injection molding.	Uncover, unwrap or expose only one charge per mold cycle per compression/injection molding machine. For machines with multiple molds, one charge means sufficient material to fill all molds for one cycle. For machines with robotic loaders, no more than one charge may be exposed prior to the loader. For machines fed by hoppers, sufficient material may be uncovered to fill the hopper. Hoppers must be closed when not adding materials. Materials may be uncovered to feed to slitting machines. Materials must be recovered after slitting.	The owner operator submits a certified statement in the notice of compliance status that only one charge is uncovered, unwrapped or exposed per mold cycle per compression/injection molding machine, or prior to the loader, hoppers are closed except when adding materials, and materials are recovered after slitting.
2. A new or existing cleaning operation	Not use cleaning solvents that contain HAP, except that styrene may be used in closed systems, and organic HAP containing materials may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts resin between storage and applying resin to the mold or reinforcement.	The owner or operator submits a certified statement in the notice of compliance status that all cleaning materials, except styrene contained in closed systems, or materials used to clean cured resin from application equipment contain no HAP.
3. A new or existing materials HAP-containing materials storage operation.	Keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.	The owner or operator submits a certified statement in the notice of compliance status that all HAP-containing storage containers are kept closed or covered except when adding or removing materials, and that any bulk storage tanks are vented only as necessary for safety.

TABLE 10 TO SUBPART WWWW OF PART 63.—DATA REQUIREMENTS FOR NEW AND EXISTING CONTINUOUS LAMINATION

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[As required in § 63.5865, in order to comply with a percent reduction limit or a lbs/ton limit on an averaging basis for continuous lamination lines and continuous casting lines you must determine the data in the following table:]

For each . . .	That . . .	You must determine . . .
5. Line	a. Is controlled or uncontrolled	i. The amount of neat resin plus applied, and ii. The amount of neat gel coat plus applied.
6. Add-on control device		i. Total annual inlet organic HAP emissions, and total annual outlet organic HAP emissions.

TABLE 12 TO SUBPART WWWW OF PART 63.—DATA REQUIREMENTS FOR NEW AND EXISTING CONTINUOUS LAMINATION LINES AND CONTINUOUS CASTING LINES COMPLYING WITH A LBS/TON ORGANIC HAP EMISSIONS LIMIT ON A PER LINE BASIS

[As required in § 63.5865(b), in order to comply with a lbs/ton organic HAP emissions limit for continuous lamination lines and continuous casting lines you must determine the data in the following table:]

For each line where the wet- out area . . .	And the oven . . .	You must determine . . .
1. Is uncontrolled	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual uncontrolled oven organic HAP emissions, and iii. Annual neat resin plus and neat gel coat plus applied.
2. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. The capture efficiency of the wet-out area enclosure, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
3. Has an enclosure that is a PTE, and the captured organic HAP emissions are controlled by an add-on control device.	a. Is uncontrolled	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, iv. That the wet-out area enclosure meets the requirements of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
4. Is uncontrolled	a. Is controlled by an add-on control device	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual uncontrolled oven organic HAP emissions, iii. Annual controlled oven organic HAP emissions, iv. The capture efficiency of the oven, v. The destruction efficiency of the add-on control device, and vi. The amount of neat resin plus and neat gel coat plus applied.
5. Has an enclosure that is not a PTE and the captured organic HAP emissions are controlled by an add-on control device.	a. Is controlled by an add-on control device	i. Annual uncontrolled wet-out area organic HAP emissions, ii. Annual controlled wet-out area organic HAP emissions, iii. Annual uncontrolled oven organic HAP emissions, vi. The amount of neat resin plus and neat gel coat plus applied.

TABLE 12 TO SUBPART WWWW OF PART 63.—DATA REQUIREMENTS FOR NEW AND EXISTING CONTINUOUS LAMINAT

Ershigs, Inc. **Facility ID: 0701000070**
PTI Application: 07-00547
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For each line where the wet- out area . . .	And the oven . . .	You must determine . . .
6. Has an enclosure that is a PTE, and the captured organic HAP emissions are controlled by add-on control device.	a. Is controlled by an add-on control device ...	iv. Annual controlled oven organic emissions, v. The capture efficiency of the wet-out enclosure, vi. The capture efficiency of the oven, vii. The destruction efficiency of the ad control device, and viii. The amount of neat resin plus and gel coat plus applied. i. That the wet-out area enclosure meets requirements of EPA Method 204 of ap dix M to 40 CFR part 51 for a PTE, ii. The capture efficiency of the oven, iii. Inlet organic HAP emissions to the an on control device, and iv. Outlet organic HAP emissions from add-on control device.

TABLE 13 TO SUBPART WWWW OF PART 63.—APPLICABILITY AND TIMING OF NOTIFICATIONS

[As required in § 63.5905(a), you must determine the applicable notifications and submit them by the dates shown in the following table:]

If your facility . . .	You must submit . . .	By this date . . .
1. Is an existing source subject to this subpart	An Initial Notification containing the information specified in § 63.9(b)(2).	No later than the dates specified § 63.9(b)(2).
2. Is a new source subject to this subpart	The notifications specified in § 63.9(b)(4) and (5).	No later than the dates specified § 63.9(and (5).
3. Qualifies for a compliance extension as specified in § 63.9(c).	A request for a compliance extension as specified in § 63.9(c).	No later than the dates specified in § 63.6
4. Is complying with organic HAP emissions limit averaging provisions.	A Notification of Compliance Status as specified in § 63.9(h).	No later than 1 year plus 30 days after facility's compliance date.
5. Is complying with organic HAP content limits, application equipment requirements, or organic HAP emissions limit other than organic HAP emissions limit averaging.	A Notification of Compliance Status as specified in § 63.9(h).	No later than 30 calendar days after you cility's compliance date.
6. Is complying by using an add-on control device.	a. A notification of intent to conduct a performance test as specified in § 63.9(e).	No later than the date specified in § 63.9(
	b. A notification of the date for the CMS performance evaluation as specified in § 63.9(g).	The date of submission of notification of i to conduct a performance test.
	c. A Notification of Compliance Status as specified in § 63.9(h).	No later than 60 calendar days after the pletion of the add-on control device formance test and CMS perform evaluation.

TABLE 14 TO SUBPART WWWW OF PART 63.—REQUIREMENTS FOR REPORTS

[As required in § 63.5910(a), (b), (g), and (h), you must submit reports on the schedule shown in the following table:]

You must submit a(n)	The report must contain . . .	You must submit the report . .
1. Compliance report	a. A statement that there were no deviations during that reporting period if there were no deviations from any emission limitations (emission limit, operating limit, opacity limit, and visible emission limit) that apply to you and there were no deviations from the requirements for work practice standards in Table 4 to this subpart that apply to you. If there were no periods during which the CMS, including CEMS, and operating parameter monitoring systems, was out of control as specified in § 63.8(c)(7), the report must also contain a statement that there were no periods during which the CMS was out of control during the reporting period.	Semiannually according to the quirements in § 63.5910(b).

TABLE 14 TO SUBPART WWWW OF PART 63.—REQUIREMENTS FOR REPORTS—Continued

	b. The information in § 63.10(d)(5)(ii) if you have a deviation from any emission limitation (emission limit, operating limit, or work practice standard) during the reporting period. If there were periods during which the CMS, including CEMS, and operating parameter monitoring systems, was out of control, as specified in § 63.8(c)(7), the report must contain the information in § 63.5910(e).	Semiannually according to the requirements in § 63.5910(b).
	c. The information in § 63.10(d)(5)(i) if you had a startup, shutdown or malfunction during the reporting period, and you took actions consistent with your startup, shutdown, and malfunction plan.	Semiannually according to the requirements in § 63.5910(b).
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan.	a. Actions taken for the event	By fax or telephone within 2 working days after starting actions inconsistent with the plan.
	b. The information in § 63.10(d)(5)(ii)	By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. (§ 63.10(d)(5)(ii)).

TABLE 15 TO SUBPART WWWW OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS (SUBPART A) TO SUBPART WWWW OF PART 63

[As specified in § 63.5925, the parts of the General Provisions which apply to you are shown in the following table:]

The general provisions reference . . .	That addresses . . .	And applies to subpart WWWW of part 63 . . .	Subject to the following additional information . . .
§ 63.1(a)(1)	General applicability of the general provisions.	Yes	Additional terms defined in subpart WWWW of Part 63, when overlap between subparts A and WWWW of Part 63 of this part, subpart WWWW of Part 63 takes precedence.
§ 63.1(a)(2) through (4)	General applicability of the general provisions.	Yes.	
§ 63.1(a)(5)	Reserved	No.	
§ 63.1(a)(6)	General applicability of the general provisions.	Yes.	
§ 63.1(a)(7) through (9)	Reserved	No.	
§ 63.1(a)(10) through (14)	General applicability of the general provisions.	Yes.	
§ 63.1(b)(1)	Initial applicability determination	Yes	Subpart WWWW of Part 63 clarifies the applicability in§§ 63.5780 and 63.5785.
§ 63.1(b)(2)	Reserved	No..	
§ 63.1(b)(3)	Record of the applicability determination	Yes.	
§ 63.1(c)(1)	Applicability of this part after a relevant standard has been set under this part.	Yes	Subpart WWWW of Part 63 clarifies the applicability of each paragraph of subpart A to sources subject to subpart WWWW of Part 63.
§ 63.1(c)(2)	Title V operating permit requirement	Yes	All major affected sources are required to obtain a title V operating permit. Area sources are not subject to subpart WWWW of Part 63.
§ 63.1(c)(3) and (4)	Reserved	No.	
§ 63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels.	Yes.	
§ 63.1(d)	Reserved	No.	
§ 63.1(e)	Applicability of permit program before a relevant standard has been set under this part.	Yes.	
§ 63.2	Definitions	Yes	Subpart WWWW of Part 63 defines terms in § 63.5935. When overlap between subparts A and WWWW of Part 63 occurs, you must comply with the subpart WWWW of Part 63 definitions, which take precedence over the subpart A definitions.

TABLE 15 TO SUBPART WWWW OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS (SUBPART A) TO SUBPART

erence . . .		WWWW of part 63 . . .	mation . . .
§ 63.3	Units and abbreviations	Yes	Other units and abbreviations used in subpart WWWW of Part 63 are defined in subpart WWWW of Part 63.
§ 63.4	Prohibited activities and circumvention	Yes	§ 63.4(a)(3) through (5) is reserved and does not apply.
§ 63.5(a)(1) and (2)	Applicability of construction and reconstruction.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.5(b)(1)	Relevant standards for new sources upon construction.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.5(b)(2)	Reserved	No.	
§ 63.5(b)(3)	New construction/reconstruction	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.5(b)(4)	Construction/reconstruction notification	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.5(b)(5)	Reserved	No.	
§ 63.5(b)(6)	Equipment addition or process change	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.5(c)	Reserved	No.	
§ 63.5(d)(1)	General application for approval of construction or reconstruction.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.5(d)(2)	Application for approval of construction	Yes.	
§ 63.5(d)(3)	Application for approval of reconstruction	No.	
§ 63.5(d)(4)	Additional information	Yes.	
§ 63.5(e)(1) through (5)	Approval of construction or reconstruction.	Yes.	
§ 63.5(f)(1) and (2)	Approval of construction or reconstruction based on prior State preconstruction review.	Yes.	
§ 63.6(a)(1)	Applicability of compliance with standards and maintenance requirements.	Yes.	
§ 63.6(a)(2)	Applicability of area sources that increase HAP emissions to become major sources.	Yes.	
§ 63.6(b)(1) through (5)	Compliance dates for new and reconstructed sources.	Yes	Subpart WWWW of Part 63 clarifies compliance dates in § 63.5800.
§ 63.6(b)(6)	Reserved	No.	
§ 63.6(b)(7)	Compliance dates for new operations or equipment that cause an area source to become a major source.	Yes	New operations at an existing facility are not subject to new source standards.
§ 63.6(c)(1) and (2)	Compliance dates for existing sources	Yes	Subpart WWWW of Part 63 clarifies compliance dates in § 63.5800.
§ 63.6(c)(3) and (4)	Reserved	No.	
§ 63.6(c)(5)	Compliance dates for existing area sources that become major.	Yes	Subpart WWWW of Part 63 clarifies compliance dates in § 63.5800.
§ 63.6(d)	Reserved	No.	
§ 63.6(e)(1) and (2)	Operation & maintenance requirements	Yes.	
§ 63.6(e)(3)	Startup, shutdown, and malfunction plan and recordkeeping.	Yes	Subpart WWWW of Part 63 requires a startup, shutdown, and malfunction plan only for sources using add-on controls.
§ 63.6(f)(1)	Compliance except during periods of startup, shutdown, and malfunction.	No	Subpart WWWW of Part 63 requires compliance during periods of startup, shutdown, and malfunction, except startup, shutdown, and malfunctions for sources using add-on controls.
§ 63.6(f)(2) and (3)	Methods for determining compliance	Yes.	
§ 63.6(g)(1) through (3)	Alternative standard	Yes.	
§ 63.6(h)	Opacity and visible emission Standards	No	Subpart WWWW of Part 63 does not contain opacity or visible emission standards.
§ 63.6(i)(1) through (14)	Compliance extensions	Yes.	

TABLE 15 TO SUBPART WWWW OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS (SUBPART A) TO SUBPART

erence . . .		WWWW of part 63 . . .	mation . . .
§ 63.6(i)(15)	Reserved	No.	
§ 63.6(i)(16)	Compliance extensions	Yes.	
§ 63.6(j)	Presidential compliance exemption	Yes.	
§ 63.7(a)(1)	Applicability of performance testing requirements.	Yes.	
§ 63.7(a)(2)	Performance test dates	No	Subpart WWWW of Part 63initial compliance requirements are in § 63.5840.
§ 63.7(a)(3)	CAA Section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes.	
§ 63.7(b)(2)	Notification rescheduled performance test.	Yes.	
§ 63.7(c)	Quality assurance program, including test plan.	Yes	Except that the test plan must be submitted with the notification of the performance test.
§ 63.7(d)	Performance testing facilities	Yes.	
§ 63.7(e)	Conditions for conducting performance tests.	Yes	Performance test requirements are contained in § 63.5850. Additional requirements for conducting performance tests for continuous lamination/casting are included in § 63.5870.
§ 63.7(f)	Use of alternative test method	Yes.	
§ 63.7(g)	Performance test data analysis, recordkeeping, and reporting.	Yes.	
§ 63.7(h)	Waiver of performance tests	Yes.	
§ 63.8(a)(1) and (2)	Applicability of monitoring requirements	Yes.	
§ 63.8(a)(3)	Reserved	No.	
§ 63.8(a)(4)	Monitoring requirements when using flares.	Yes.	
§ 63.8(b)(1)	Conduct of monitoring exceptions	Yes.	
§ 63.8(b)(2) and (3)	Multiple effluents and multiple monitoring systems.	Yes.	
§ 63.8(c)(1)	Compliance with CMS operation and maintenance requirements.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(c)(2) and (3)	Monitoring system installation	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(c)(4)	CMS requirements	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) minimum procedures.	No	Subpart WWWW of Part 63 does not contain opacity standards.
§ 63.8(c)(6) through (8)	CMS calibration and periods CMS is out of control.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(d)	CMS quality control program, including test plan and all previous versions.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(1)	Performance evaluation of CMS	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(2)	Notification of performance evaluation	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(3) and (4)	CMS requirements/alternatives	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(5)(i)	Reporting performance evaluation results	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(e)(5)(ii)	Results of COMS performance evaluation.	No	Subpart WWWW of Part 63 does not contain opacity standards.
§ 63.8(f)(1) through (3)	Use of an alternative monitoring method	Yes.	
§ 63.8(f)(4)	Request to use an alternative monitoring method.	Yes.	
§ 63.8(f)(5)	Approval of request to use an alternative monitoring method.	Yes.	

TABLE 15 TO SUBPART WWWW OF PART 63 — APPLICABILITY OF GENERAL PROVISIONS (SUBPART A) TO SUBPART

erence . . .	That addresses . . .	WWWW of part 63 . . .	mation . . .
§ 63.8(f)(6)	Request for alternative to relative accuracy test and associated records.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.8(g)(1) through (5)	Data reduction	Yes.	
§ 63.9(a)(1) through (4)	Notification requirements and general information.	Yes.	
§ 63.9(b)(1)	Initial notification applicability	Yes.	
§ 63.9(b)(2)	Notification for affected source with initial startup before effective date of standard.	Yes.	
§ 63.9(b)(3)	Reserved	No.	
§ 63.9(b)(4)(i)	Notification for a new or reconstructed major affected source with initial startup after effective date for which an application for approval of construction or reconstruction is required.	Yes.	
§ 63.9(b)(4)(ii) through (iv)	Reserved	No.	
§ 63.9(b)(4)(v)	Notification for a new or reconstructed major affected source with initial startup after effective date for which an application for approval of construction or reconstruction is required.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.9(b)(5)	Notification that you are subject to this subpart for new or reconstructed affected source with initial startup after effective date and for which an application for approval of construction or reconstruction is not required.	Yes	Existing facilities do not become reconstructed under subpart WWWW of Part 63.
§ 63.9(c)	Request for compliance extension	Yes.	
§ 63.9(d)	Notification of special compliance requirements for new source.	Yes.	
§ 63.9(e)	Notification of performance test	Yes.	
§ 63.9(f)	Notification of opacity and visible emissions observations.	No	Subpart WWWW of Part 63 does not contain opacity or visible emission standards.
§ 63.9(g)(1)	Additional notification requirements for sources using CMS.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.9(g)(2)	Notification of compliance with opacity emission standard.	No	Subpart WWWW of Part 63 does not contain opacity emission standards.
§ 63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded.	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.9(h)(1) through (3)	Notification of compliance status	Yes.	
§ 63.9(h)(4)	Reserved	No.	
§ 63.9(h)(5) and (6)	Notification of compliance status	Yes.	
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in information provided	Yes.	
§ 63.10(a)	Applicability of recordkeeping and reporting.	Yes.	
§ 63.10(b)(1)	Records retention	Yes.	
§ 63.10(b)(2)(i) through (v)	Records related to startup, shutdown, and malfunction.	Yes	Only applies to facilities that use an add-on control device.
§ 63.10(b)(2)(vi) through (xi)	CMS records, data on performance tests, CMS performance evaluations, measurements necessary to determine conditions of performance tests, and performance evaluations.	Yes.	
§ 63.10(b)(2)(xii)	Record of waiver of recordkeeping and reporting.	Yes.	
§ 63.10(b)(2)(xiii)	Record for alternative to the relative accuracy test.	Yes.	
§ 63.10(b)(2)(xiv)	Records supporting initial notification and notification of compliance status.	Yes.	
§ 63.10(b)(3)	Records for applicability determinations	Yes.	
§ 63.10(c)(1)	CMS records	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.

TABLE 15 TO SUBPART WWWW OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS (SUBPART A) TO SUBPART

erence . . .		WWWW of part 63 . . .	mation . . .
§ 63.10(c)(2) through (4)	Reserved	No.	
§ 63.10(c)(5) through (8)	CMS records	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.10(c)(9)	Reserved	No.	
§ 63.10(c)(10) through (15)	CMS records	Yes	This section applies if you elect to use a CMS to demonstrate continuous compliance with an emission limit.
§ 63.10(d)(1)	General reporting requirements	Yes.	
§ 63.10(d)(2)	Report of performance test results	Yes.	
§ 63.10(d)(3)	Reporting results of opacity or visible emission observations.	No	Subpart WWWW of Part 63 does not contain opacity or visible emission standards.
§ 63.10(d)(4)	Progress reports as part of extension of compliance.	Yes.	
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports.	Yes	Only applies if you use an add-on control device.
§ 63.10(e)(1) through (3)	Additional reporting requirements for CMS.	Yes	This section applies if you have an add-on control device and elect to use a CEM to demonstrate continuous compliance with an emission limit.
§ 63.10(e)(4)	Reporting COMS data	No	Subpart WWWW of Part 63 does not contain opacity standards.
§ 63.10(f)	Waiver for recordkeeping or reporting	Yes.	
§ 63.11	Control device requirements	Yes	Only applies if you elect to use a flare as a control device.
§ 63.12	State authority and delegations	Yes.	
§ 63.13	Addresses of State air pollution control agencies and EPA Regional Offices.	Yes.	
§ 63.14	Incorporations by reference	Yes.	
§ 63.15	Availability of information and confidentiality.	Yes.	

Appendix A to Subpart WWWW—Test Method for Determining Vapor Suppressant Effectiveness

1. Scope and Application

1.1 *Applicability.* If a facility is using vapor suppressants to reduce hazardous air pollutant (HAP) emissions, the organic HAP emission factor equations in Table 1 to this subpart require that the vapor suppressant effectiveness factor be determined. The vapor suppressant effectiveness factor is then used as one of the inputs into the appropriate organic HAP emission factor equation. The vapor suppressant effectiveness factor test is not intended to quantify overall volatile emissions from a resin, nor to be used as a stand-alone test for emissions determination. This test is designed to evaluate the performance of film forming vapor suppressant resin additives. The results of this test are used only in combination with the organic HAP emissions factor equations in Table 1 to this subpart to generate emission factors.

1.1.1 The open molding process consists of application of resin and reinforcements to the mold surface, followed by a manual rollout process to consolidate the laminate, and the curing stage where the laminate surface is not disturbed. Emission studies have shown that approximately 50 percent to 55 percent of the emissions occur while the resin is being applied to the mold. Vapor suppressants have little effect during this portion of the lamination process, but can have a significant effect during the curing stage. Therefore, if a suppressant is 100 percent effective, the overall emissions from the process would be reduced by 45 percent to 50 percent, representing the emissions generated during the curing stage. In actual practice, vapor suppressant effectiveness will be less than 100 percent and the test results determine the specific effectiveness in terms of the vapor suppressant effectiveness factor. This factor represents the effectiveness of a specific combination of suppressant additive and resin formulation.

1.1.2 A resin manufacturer may supply a molder with a vapor-suppressed resin, and employ this test to provide the molder with the vapor suppressant effectiveness factor for that combination of resin and vapor suppressant. The factor qualifies the effectiveness of the vapor suppressant when the resin is tested in the specific formulation supplied to the molder. The addition of fillers or other diluents by the molder may impact the effectiveness of the vapor suppressant. The formulation, including resin/glass ratio and filler content, used in the test should be similar to the formulation to be used in production. The premise of this method is to compare laminate samples made with vapor suppressant additive and made without the additive. The difference in emissions between the two yields the vapor suppressant effectiveness factor.

1.1.3 The method uses a mass balance determination to establish the relative loss of the volatile component from unsaturated polyester or vinyl ester resins, with and without vapor suppressant additives. The effectiveness of a specific vapor suppressant and resin mixture is determined by comparing the relative volatile weight losses from vapor suppressed and non-suppressed resins. The volatile species are not separately analyzed. While the species contained in the volatile component are not determined, an extended listing of potential monomer that may be contained in unsaturated polyester or vinyl ester resins is provided in Table 1.1. However, most polyester and vinyl ester resin formulations presently used by the composites industry only contain styrene monomer.

TABLE 1.1.—LIST OF MONOMERS POTENTIALLY PRESENT IN UNSATURATED POLYESTER/VINYL ESTER RESINS

Monomer	CAS No.
Styrene	100–42–5.
Vinyl toluene	25013–15–4.
Methyl methacrylate	80–62–6.
Alpha methyl styrene	98–83–9.

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TABLE 1.1.—LIST OF MONOMERS PO-

Monomer	CAS No.
Para methyl styrene	Vinyl toluene isomer.
Chlorostyrene	1331–28–8.
Diallyl phthalate	131–17–9.
Other volatile monomers	Various.

2. Summary of Method

2.1 Differences in specific resin and suppressant additive chemistry affect the performance of a vapor suppressant. The purpose of this method is to quantify the effectiveness of a specific combination of vapor suppressant and unsaturated polyester or vinyl ester resin as they are to be used in production. This comparative test quantifies the loss of volatiles from a fiberglass reinforced laminate during the roll-out and curing emission phases, for resins formulated with and without a suppressant additive. A criterion for this method is the testing of a non-vapor suppressed resin system and testing the same resin with a vapor suppressant. The two resins are as identical as possible with the exception of the addition of the suppressant to one. The exact formulation used for the test will be determined by the in-use production requirements. Each formulation of resin, glass, fillers, and additives is developed to meet particular customer and or performance specifications.

2.2 The result of this test is used as an input factor in the organic HAP emissions factor equations in Table 1 to this subpart, which allows these equations to predict emissions from a specific combination of resin and suppressant. This test does not provide an emission rate for the entire lamination process.

3. Definitions and Acronyms

3.1 Definitions

3.1.1 *Vapor suppressant.* An additive that inhibits the evaporation of volatile components in unsaturated polyester or vinyl ester resins.

3.1.2 *Unsaturated polyester resin.* A thermosetting resin commonly used in composites molding.

3.1.3 *Unsaturated vinyl ester resin.* A thermosetting resin used in composites molding for corrosion resistant and high performance applications.

3.1.4 *Laminate.* A combination of fiber reinforcement and a thermoset resin.

3.1.5 *Chopped strand mat.* Glass fiber reinforcement with random fiber orientation.

3.1.6 *Initiator.* A curing agent added to an unsaturated polyester or vinyl ester resin.

3.1.7 *Resin application roller.* A tool used to saturate and compact a wet laminate.

3.1.8 *Gel time.* The time from the addition of initiator to a resin to the state of resin gelation.

3.1.9 *Filled resin system.* A resin, which includes the addition of inert organic or inorganic materials to modify the resin properties, extend the volume and to lower the cost. Fillers include, but are not limited

bi-directional interface[13] for use with

supplied by the manufacturer of a chemical product, listing hazardous chemical components, safety precautions, and required personal protection equipment for a specific product.

3.1.11 *Tare(ed).* Reset a balance to zero after a container or object is placed on the balance; that is to subtract the weight of a container or object from the balance reading so as to weigh only the material placed in the container or on the object.

3.1.12 *Percent glass.* The specified glass fiber weight content in a laminate. It is usually determined by engineering requirements for the laminate.

3.2 Acronyms:

3.2.1 *VS*—vapor suppressed or vapor suppressant.

3.2.2 *NVS*—non-vapor suppressed.

3.2.3 *VSE*—vapor suppressant effectiveness.

3.2.4 *VSE Factor*—vapor suppressant effectiveness, factor used in the equations in Table 1 to this subpart.

3.2.5 *CSM*—chopped strand mat.

3.2.6 *MSDS*—material safety data sheet.

4. Interferences

There are no identified interferences which affect the results of this test.

5. Safety

Standard laboratory safety procedures should be used when conducting this test. Refer to specific MSDS for handling precautions.

6. Equipment and Supplies

Note: Mention of trade names or specific products or suppliers does not constitute an endorsement by the Environmental Protection Agency.

6.1 Required Equipment.

6.1.1 Balance enclosure.[1]

6.1.2 Two (2) laboratory balances—accurate to ±0.01g.[2]

6.1.3 Stop watch or balance data recording output to data logger with accuracy ±1 second.[3]

6.1.4 Thermometer—accurate to ±2.0°F(±1.0°C).[4]

6.1.5 A lipped pan large enough to hold the cut glass without coming into contact with the vertical sides, *e.g.* a pizza pan.[5]

6.1.6 Mylar film sufficient to cover the bottom of the pan.[6]

6.1.7 Tape to keep the Mylar from shifting in the bottom of the pan.[7]

6.1.8 Plastic tri-corner beakers of equivalent—250 ml to 400 ml capacity.[8]

6.1.9 Eye dropper or pipette.[9]

6.1.10 Disposable resin application roller, 3/16"–3/4" diameter × 3"–6" roller length.[10]

6.1.11 Hygrometer or psychrometer[11] accurate to ±5 percent

6.1.12 Insulating board, (Teflon, cardboard, foam board etc.) to prevent the balance from becoming a heat sink.[12]

6.2 Optional Equipment.

6.2.1 Laboratory balance—accurate to ±.01g with digital output, such as an RS–232

acquisition.

6.3 Supplies.

6.3.1 Chopped strand mat—1.5 oz/ft.^{2} [14]

7. Reagents and Standards

7.1 *Initiator.* The initiator type, brand, and concentration will be specified by resin manufacturer, or as required by production operation.

7.2 Polyester or vinyl ester resin.

7.3 Vapor suppressant additive.

8. Sample Collection, Preservation, and Storage

This test method involves the immediate recording of data during the roll out and curing phases of the lamination process during each test run. Samples are neither collected, preserved, nor stored.

9. Quality Control

Careful attention to the prescribed test procedure, routing equipment calibration, and replicate testing are the quality control activities for this test method. Refer to the procedures in section 11. A minimum of six test runs of a resin system without a suppressant and six test runs of the same resin with a suppressant shall be performed for each resin and suppressant test combination.

10. Calibration and Standardization

10.1 The laboratory balances, stopwatch, hygrometer and thermometer shall be maintained in a state of calibration prior to testing and thereafter on a scheduled basis as determined by the testing laboratory. This shall be accomplished by using certified calibration standards.

10.2 Calibration records shall be maintained for a period of 3 years.

11. Test Procedure

11.1 Test Set-up.

11.1.1 The laboratory balance is located in an enclosure to prevent fluctuations in balance readings due to localized air movement. The front of enclosure is open to permit work activity, but positioned so that local airflow will not effect balance readings. The ambient temperature is determined by suspending the thermometer at a point inside the enclosure.

11.1.2 The bottom of the aluminum pan is covered with the Mylar film. The film is held in position with tape or by friction between the pan and the film.

11.1.3 The resin and pan are brought to room temperature. This test temperature must be between 70°F and 80°F. The testing temperature cannot vary more than ±2°F during the measurement of test runs. Temperature shall be recorded at the same time weight is recorded on suppressed and non-suppressed test data sheets, shown in Table 17.1.

11.1.4 The relative humidity may not change more than ±15 percent during the test runs. This is determined by recording the relative humidity in the vicinity of the test

chamber at the beginning and end of an

minute gel time. The initiator levels of 2.25

unfilled systems. With filled systems, resin is

surface area of 60 square inches (*i.e.* a square with a side dimension of 7.75 inches).

11.1.6 The appropriate resin application roller is readily available.

11.2 Resin Gel Time/Initiator Percentage

11.2.1 Previous testing has indicated that resin gel time influences the emissions from composite production. The testing indicated that longer the gel times led to higher emissions. There are a number of factors that influence gel time including initiator type, initiator brand, initiator level, temperature and resin additives. Under actual usage conditions a molder will adjust the initiator to meet a gel time requirement. In this test procedure, the vapor suppressed and non-vapor suppressed resin systems will be adjusted to the same gel time by selecting the appropriate initiator level for each.

11.2.2 All test runs within a test will be processed in a manner that produces the same resin gel time ±2 minutes. To facilitate the resin mixing procedure, master batches of resin and resin plus vapor suppressant of resin are prepared. These resin master batches will have all of the required ingredients except initiator; this includes filler for filled systems. The gel times for the tests are conducted using the master batch and adjustments to meet gel time requirements shall be made to the master batch before emission testing is conducted. Test temperatures must be maintained within the required range, during gel time testing. Further gel time testing is not required after the non-vapor suppressed and vapor suppressed master batches are established with gel times within ±2 minutes. A sufficient quantity of each resin should be prepared to allow for additional test specimens in the event one or more test fails to meet the data acceptance criteria discussed in Section 11.5 and shown in Table 17.2.

11.2.3 The specific brand of initiator and the nominal percentage level recommended by the resin manufacturer will be indicated on the resin certificate of analysis [15]; or, if a unique gel time is required in a production laminate, initiator brand and percentage will be determined by that specific requirement.

11.2.4 Examples:

11.2.4.1 The resin for a test run is specified as having a 15-minute cup gel time at 77°F using Brand X initiator at 1.5 percent by weight. The non-suppressed control resin has a 15-minute gel time. The suppressed resin has a gel time of 17-minutes. An initiator level of 1.5 percent would be selected for the both the non-suppressed and the suppressed test samples.

11.2.4.2 Based on a specific production requirement, a resin is processed in production using 2.25 percent of Brand Y initiator, which produces a 20-minute gel time. This initiator at level of 2.25 percent produces a 20 minute gel time for the non-suppressed control resin, but yields a 25-minute gel time for the suppressed resin sample. The suppressed resin is retested at 2.50 percent initiator and produces a 21-

11.3.1 The insulating board is placed on the balance.

11.3.2 The aluminum pan with attached Mylar film is placed on the balance, and the balance is tared (weight reading set to zero with the plate on the balance.)

11.3.3 Place two plies of 1.5 oz. CSM on the balance and record the weight (glass weight).

11.3.4 The resin beaker and stirring rod are put on the second balance and tared.

11.3.5 The required resin weight and initiator weight are calculated (refer to calculation formulas in 12.2).

11.3.6 The disposable resin application roller is placed on the edge of the plate.

11.3.7 The balance is tared, with the aluminum pan, Mylar film, glass mat, and resin application roller on the balance pan.

11.3.8 Resin is weighed into a beaker, as calculated, using the second balance. The mixing stick should be tared with the beaker weight.

11.3.9 Initiator is weighed into the resin, as calculated, using an eyedropper or a pipette, and the combination is mixed.

11.3.10 Initiated resin is poured on chopped strand mat in a pe-determined pattern (see Figure 11.6).

11.3.11 A stopwatch is started from zero.

11.3.12 The initial laminate weight is recorded.

11.3.13 The plate is removed from balance to enable roll-out of the laminate.

11.3.14 The wet laminate is rolled with the resin application roller to completely distribute the resin, saturate the chopped strand mat, and eliminate air voids. Roll-out time should be in the range of 2 to 3[16] minutes and vary less than ±10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.3.15 Record the rollout end time (time from start to completion of rollout).

11.3.16 Place the resin application roller on the edge of the plate when rollout is completed.

11.3.17 Place the plate back on the balance pan. Immediately record the weight.

11.3.18 For the first test in a series of six tests, weight is recorded every 5-minute interval (suppressed and non-suppressed). The end of the test occurs when three consecutive equal weights are recorded or a weight gain is observed (the last weight before the increased weight is the end of test weight). For the remaining five tests in the series, after the initial weights are taken, the next weight is recorded 30 minutes before the end of the test, as suggested by the results from the first test. It is likely that the time to reach the end point of a suppressed resin test will be shorter than the time required to complete a non-suppressed test. Therefore, the time to start taking data manually may be different for suppressed and non-suppressed resins.

11.4 Test Run Procedures for Filled Resin Systems [17] Note that the procedure for filled systems differs from the procedure for

Mylar film is placed on the balance, and the balance is tared (weight reading set to zero with the plate on the balance.)

11.4.3 Place two plies of 1.5 oz. CSM on the balance and record the weight (glass weight).

11.4.4 Remove the top ply of fiberglass and record its weight (weight of 1st layer of glass).

11.4.5 The required resin weight and initiator weight are calculated (refer to calculation formulas in 12.2). Calculate the weight of filled resin and initiator based on the 2 layers of fiberglass.

11.4.6 The resin beaker and stirring rod are put on the second balance and tared.

11.4.7 A disposable resin application roller is placed on the edge of the plate.

11.4.8 The balance is tared, with the aluminum pan, Mylar film, glass mat, and resin application roller on the balance pan.

11.4.9 Resin is weighed into the beaker, as calculated, using the second balance. The mixing stick should be tared with the beaker weight.

11.4.10 Initiator is weighed into the resin, as calculated, using an eyedropper or a pipette, and the combination is mixed.

11.4.11 Initiated resin is poured on the single ply of CSM in a pre-determined pattern. Refer to Figure 11.6.

11.4.12 A stopwatch is started from zero.

11.4.13 Record the weight of the resin ans single ply of CSM (L_1). The initial laminate weight equals L_1 plus the weight of second glass layer.

11.4.14 Replace the second layer of fiberglass.

11.4.15 Remove the plate from the balance to allow roll-out of the laminate.

11.4.16 Roll the wet laminate with the resin application roller to completely distribute the resin, saturate the chopped strand mat, and eliminate air voids. Roll-out time should be in the range of 2 to 3[16] minutes and vary less than ± 10 percent of the average time required for the complete set of six suppressed and six non-suppressed runs.

11.4.17 Record the roll-out end time (time from start to completion of rollout).

11.4.18 Place the resin application roller on the edge of the plate when rollout is completed.

11.4.19 Place the plate back on the balance pan. The initial weight is recorded immediately.

11.4.20 For the first test run in a series of six, weight is recorded at every 5-minute interval (suppressed and non-suppressed). The end of the test occurs when three consecutive equal weights are recorded or a weight gain is observed (the last weight before the increased weight is the end of test weight). For the remaining five tests in the series, after the initial weights are taken, the next weight is recorded 30 minutes before the end of the test, as suggested by the results from the first test. It is likely that the time to reach the end point of a suppressed resin

11.5.1 A test set is designed as twelve individual test runs using the same resin, initiator, and gel time, six of the test runs use the resin non-vapor suppressed and the other six use it vapor suppressed.

11.5.2 If a test run falls outside any of the time, temperature, weight or humidity variation requirements, it must be discarded and run again.

11.5.3 The laminate roll out time for each individual test run must vary less than ± 10 percent of the average time required for the to 11.1.3.

11.5.5 The difference in the amount of resin for each run must be within ±10 percent of the average weight for the complete set of six suppressed and six non-suppressed runs.

11.5.6 The relative humidity from each test run must be within ±15 percent of the average humidity for the complete set of six suppressed and six non-suppressed tests. Refer to 11.1.4

11.5.7 The glass content for each test set a test set must be within ±5 percent of the average filler content for the complete set of six suppressed and six non-suppressed runs. Refer to 12.2.

11.6 Resin Application Pour Pattern:

11.6.1 To facilitate the distribution of resin across the chopped strand mat, and to provide consistency from test to test, a uniform pour pattern should be used. A typical pour pattern is shown below:

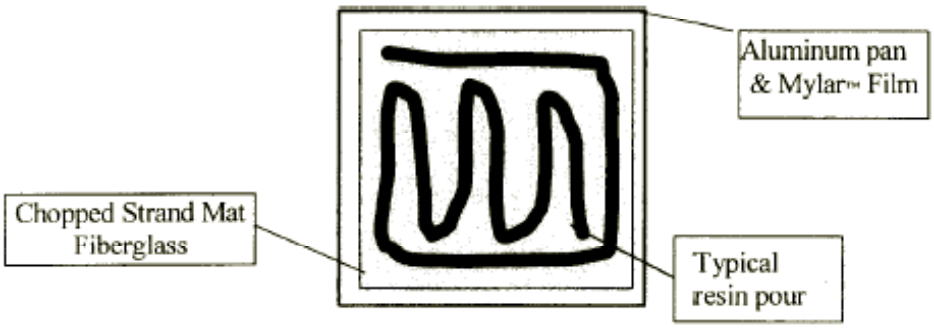

Figure 11.6 Resin Distribution Diagram

11.6.2 The resin is to be evenly distributed across the entire surface of the chopped strand mat using the resin application roller to achieve a wet look across the surface of the laminate. Pushing excess resin off the reinforcement and onto the Mylar sheet should be avoided. No resin is to be pushed more than ½ inch beyond the edge of the glass mat. If excess resin is pushed further from the glass mat, it will void the test run. As part of this process, typical visible air voids are to be eliminated by the rollout process. If the pour pattern is different from the above, it must be recorded and attached to test data sheet 17.1.

12. Data Analysis and Calculations

12.1 Data Analysis:

This test method requires a simple mass balance calculation, no special data analysis is necessary.

12.2 Calculations:

12.2.1 The target glass content (percent) for unfilled resin systems is determined from the specific production parameters being evaluated. In absence of any specific production requirements the target may be set at the tester's discretion.

12.2.2 Glass content determination (expressed as a per cent):

% Glass = Glass wt(g)/(Glass wt(g) + Resin weight (g))

12.2.3 Weight of resin required:

Resin weight required = (Glass wt (g)/% glass)—Glass wt (g)

12.2.4 Filled resin formulation determination for filled resin systems (*e.g.* >30 percent filler by weight for a particulate filler, or >1 percent by weight for a lightweight filler, such as hollow microspheres):

% Resin content = resin weight(g)/(resin weight(g) + glass weight(g) + filler weight(g))

% Glass content = glass weight(g)/(resin weight(g) + glass weight(g) + filler weight(g))

Filler content = filler weight(g)/(resin weight(g) + glass weight(g) + filler weight(g))

12.2.5 Initiator weight determination:

Initiator weight (g) = Resin weight(g) × Initiator %

12.2.6 Emission weight loss determination:

Emissions weight loss (g) = Initial resin weight (g) – Final resin weight (g)

12.2.7 % Emission weight loss:

% Emission Weight Loss = (Emission weight loss (g) Initial resin weight (g) × 100

12.2.8 Average % Emission Weight Loss (assuming six test runs):

$$\text{Average \% Emission Weight Loss} = \sum_{i}^{N=6} (\text{\% Emission Weight Loss}_i)/6$$

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12.2.9 VSE Factor calculation:

TABLE 12.1.—EXAMPLE CALCULATION

Test #	% VS weight loss	% NVS weight loss
1	6.87	10.86
2	6.76	11.23
3	5.80	12.02
4	5.34	11.70
5	6.11	11.91
6	6.61	10.63
Average Weight Loss	6.25	11.39
VSE Factor		0.4

VSE Factor = 0.45

VSE Factor is used as input into the

HAP Emissions with vapor suppressants = ((0.286 × %HAP) − 0.0529) × 2000 × (1−(0.5 × VSE factor))

HAP Emissions with vapor suppressants = ((0.286 × .35) − 0.0529) × 2000 × (1 − (0.5 × .45))

HAP Emissions with vapor suppressants = 73 pounds of HAP emissions per ton of resin.

13. Method Performance

13.1 Bias:

The bias of this test method has not been determined.

13.2 Precision Testing

13.2.1 Subsequent to the initial development of this test protocol by the Composites Fabricators Association, a series

sample of an orthophthalic polyester resin from the same production batch, containing 48 per cent styrene by weight. Each testing site was also provided with the same vapor suppressant additive. The suppressant manufacturer specified the percentage level of suppressant additive. The resin manufacturer specified the type and level of initiator required to produce a 20 minute gel time. The target glass content was 30 percent by weight.

13.2.2 Each laboratory independently conducted the VSE test according to this method. A summary of the results is included in Table 13.1.

TABLE 13.1.—ROUND ROBIN TESTING RESULTS

	Test Lab 1		Test Lab 2		Test Lab 3	
	NVS	VS	NVS	S	NVS	VS
Average percent WT Loss	4.24	1.15	4.69	1.84	5.73	1.61
Standard Deviation	0.095	0.060	0.002	0.002	0.020	0.003
VSE Factor		0.730		0.607		0.720

13.3 Comparison to EPA Reference Methods This test has no corresponding EPA reference method.

14. Pollution Prevention

The sample size used in this method produces a negligible emission of HAP, and has an insignificant impact upon the atmosphere.

15. Waste Management

The spent and waste materials generated during this test are disposed according to required facility procedures, and waste management recommendations on the corresponding material safety data sheets.

16. References and footnotes

16.1 Footnotes:

[1] Balance Enclosure—The purpose of the balance enclosure is to prevent localized airflow from adversely affecting the laboratory balance. The enclosure may be a simple three-sided box with a top and an open face. The configuration of the enclosure is secondary to the purpose of providing a stable and steady balance reading, free from the effects of airflow, for accurate measurements. The enclosure can be fabricated locally. A typical enclosure is shown in Figure 17.1.

[2] Laboratory Balance—Ohaus Precision Standard Series P/N TS400D or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[3] Stop Watch—Local supply.

[4] Thermometer—Mercury thermometer—ASTM No. 21C or equivalent; Digital thermometer—P/N TH–33033 or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[5] Aluminum Pan—Local supply.

[6] Mylar—Local supply.

[7] Double Sided Tape—3M Double Stick Tape or equivalent, local supply.

[8] Laboratory Beakers—250 to 400ml capacity—Local laboratory supply.

[9] Eye Dropper or Pipette—Local laboratory supply.

[10] Disposable Resin Application Roller Source—Wire Handle Roller P/N 205–050–300 or Plastic Handle Roller P/N 215–050–300 or equivalent; ES Manufacturing Inc., 2500 26st Ave. North, St. Petersburg, FL 33713, *www.esmfg.com*, or other source. Refer to Figure 17.3.

[11] Hygrometer or Psychrometer—Model# THWD–1, or equivalent—Part # 975765 by Amprobe Instrument, 630 Merrick Road, P.O. Box 329, Lynbrook, NY 11563, 516–593–5600

[12] Insulating Board (Teflon, cardboard, foam board etc.)—Local supply.

[13] Laboratory Balance With Digital Output—Ohaus Precision Standard Series P/N TS120S or equivalent—Paul N. Gardner Co. 316 NE 1st St. Pompano Beach, FL 33060 or other suppliers.

[14] Chopped Strand Mat—1.5 oz/ft^2 Sources: Owens Corning Fiberglas—Fiberglas M–723; PPG Industries—ABM HTX; Vetrotex America—M–127 or equivalent.

[15] Certificate of Analysis: Resin gel time, as recorded on the resin certificate of analysis, is measured using a laboratory standard gel time procedure. This procedure typically uses a 100 gram cup sample at 77°F (25°C), a specific type of initiator and a specified percentage.

[16] Roll-out times may vary with resin viscosity or resin additive. The important aspect of this step is to produce the same roll-out time for both the suppressed and non-suppressed samples.

[17] While this test can be used with filled resin systems, the test is not designed to determine the effect of the filler on emissions, but rather to measure the effect of the suppressant additive in the resin system. When evaluating a filled system both the non-vapor suppressed and vapor suppressed samples should be formulated with the same type and level of filler.

16.2 References

1. Phase 1—Baseline Study Hand Lay-up, CFA, 1996

2. CFA Vapor Suppressant Effectiveness Test Development, 4/3/98, correspondence with Dr. Madeleine Strum, EPA, OAQPS

3. CFA Vapor Suppressant Effectiveness Screening Tests, 4/4/98

4. Styrene Suppressant Systems Study, Reichhold Chemical, 11/30/98

5. Evaluation of the CFA's New Proposed Vapor Suppressant Effectiveness Test, Technical Service Request #: ED–01–98, BYK Chemie, 6/3/98

6. Second Evaluation of the CFA's New Proposed Vapor Suppressant Effectiveness Test, Technical Service Request #: ED–02–98, BYK Chemie, 1/26/99

17. Data Sheets and Figures

17.1 This data sheet, or a similar data sheet, is used to record the test data for filled, unfilled, suppressed and non-suppressed tests. If additional time is required, the data sheet may be extended.

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B.

State

Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements
P001 - Winding Station 1 - consists of one winding machine and mandrel, one chopper gun, one 4.0 square foot resin bath, and two 500-gallon resin day tanks with electric resin heaters.	OAC rule 3745-31-05 (A)(3)
	40 CFR Part 63 Subpart WWWW Reinforced Plastic Composites Production
	OAC rule 3745-31-05(C)
	OAC rule 3745-21-07(G)(9)(g)

Applicable Emissions Limitations/Control Measures	
	and Conditions, Part II, A. 1.
Volatile Organic Compound (VOC)* emissions from this emissions unit for the resin and catalyst shall not exceed 47.74 lbs/hr.	* For the purposes of this permit, all Organic Compound (OC) emissions and HAP emissions are considered VOC emissions. VOC emissions include HAPs: Styrene and MEK.
VOC emissions from this emissions unit from the cleanup material shall not exceed 18.2 lbs/hr.	
See section A.2.b below.	
The requirements of this rule also includes compliance with the requirements of OAC rule 3745-31-05(C) and 40 CFR Part 63 Subpart WWWW.	
See section A.2.a below.	
In accordance with OAC rule 3745-21-07(G)(9)(g), Best Available Technology (BAT) for this emissions unit, as established pursuant to OAC rule 3745-31-05, has been determined to be more stringent than, or inconsistent with, the requirements of OAC rule 3745-21-07(G).	
See Facility Specific Terms	

2. Additional Terms and Conditions

2.a The combined VOC emissions * from emissions units P001, P002, and P003 including cleanup material, shall not exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions.

2.b This hourly allowable represents the maximum production capacity of this emissions unit; therefore, no hourly monitoring or record keeping is required to demonstrate compliance.

II. Operational Restrictions

1. The maximum styrene monomer weight percent, as applied, for each resin employed in this emissions unit shall not exceed forty-one percent (41%).

2. The VOC content of the cleanup material employed shall not exceed 9.1 lb VOC/gallon, as applied.

3. The permittee shall utilize non-atomized application equipment for mechanical and filament winding resin application in this emissions unit.

4. The permittee shall only employ vapor suppressant resins.

5. The volatile organic materials stored and used in emissions units P001, P002, and P003, including cleanup material, shall not cause combined VOC emissions to exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions. To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the emission limits specified in the following table:

Month(s)	Maximum Allowable Combined VOC Emission Rates(tons)
1	3.31
1-2	6.62
1-3	9.92
1-4	13.23
1-5	16.54
1-6	19.85
1-7	23.16
1-8	26.46
1-9	29.77

1-10	33.08
1-11	36.39
1-12	39.70

After the first 12 calendar months following issuance of this permit, compliance with the annual VOC emission rates from P001, P002, and P003, shall be based upon a rolling, 12-month summation of the tons of VOC emissions. These combined VOC emission shall be determined in accordance with section A.III.4. of these terms and conditions.

6. The permittee shall comply with each of the following during cleanup solvent operations:
   a. Solvent-laden applicators (e.g., rags) shall be placed in closed containers immediately after use, and the containers must be kept closed at all times except when depositing or removing the materials from the container.
   b. Solvent cleanup basins shall be closed at all times when not in use.
   c. Solvent containers for soaking tools and applicators must be kept closed at all times except when depositing or removing the items from the containers.
   d. All cleanup solvents shall be stored, transported, and disposed of in closed containers.
   e. All cleanup solvents shall be limited to non-chemically photo reactive materials.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for resins employed in emissions units P001, P002 and P003:

   a. the name and identification of each resin;

   b. documentation that each resin employed was a vapor suppressant resin;

   c. the mass of each resin employed (M_r), in tons;

   d. the weight fraction of styrene monomer (in percent) for each resin, as applied;

   e. calculation of the styrene emissions (E_r) from resin usage for each resin application technique using the following equation:

$$E_r = \sum_{i=1}^{n} M_{r,i} UEF$$

where
n = number of resins employed

UEF = United Emission Factor for open molding of composites based on the styrene content of the resin and the resin application method taken from the following table:

Table 1. Unified Emission Factors for Open Molding of Composites, ACMA, July 23, 2001

Styrene Content in resin, %	**35**	**36**	**37**	**38**	**39**	**40**	**41**
Manual	94.4	100.1	105.8	111.6	117.3	123	128.7
Manual w/ Vapor Suppressed Resin VSR	**Manual emission factor** [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))						
Mechanical Non-Atomized	76.9	80	83.2	86.3	89.5	92.6	95.7
Mechanical Non-Atomized with VSR	**Mechanical Non-Atomized emission factor** [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))						
Filament Application with VSR	86.2	89.8	93.3	96.9	100.5	104.1	107.6

2. The permittee shall maintain monthly records of the following information for catalysts employed in emission units P001, P002 and P003:

   a. the company identification for each catalyst;

   b. the volume of each catalyst employed (V_c), in gallons;

   c. the VOC content of each catalyst ($C_{c,VOC}$), in pounds per gallon;

   d. calculation of the VOC emissions from catalyst usage, using the following equations:

$$E_{c,VOC} = \sum_{i=1}^{n} V_c C_{c,VOC}$$

where
n = number of catalysts employed

3. The permittee shall maintain monthly records of the following information for cleanup materials employed in emission units P001, P002 and P003:

   a. the name and identification for each cleanup material employed;

   b. the volume of each cleanup material employed (V_s), in gallons;

   c. the VOC content of each cleanup material employed (C_s), in pounds per gallon;

   e. calculation of the VOC emissions from cleanup material usage (E_s), using the following

equation:

$$E_s = \sum_{i=1}^{n} V_s C_s$$

where
n = number of cleanup materials employed;

f. The permittee may calculate VOC emissions from cleanup materials in accordance with the following formula if waste cleanup materials are sent off site for disposal/reclamation:

VOC emissions = (total gallons of cleanup material used) x (solvent density of cleanup material) -(total gallons of cleanup material sent off site [minus solids]) x (solvent density of cleanup material).

4. The permittee shall maintain monthly records of the following information for emissions units P001, P002, and P003 :

a. during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative VOC emission rates from cleanup material, catalyst, and resin, for each calendar month. These calculations shall be performed in accordance with section A.V.1.c of these terms and conditions.

b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the VOC emission rates from cleanup material, catalyst, and resin. These calculations shall be performed in accordance with section A.V.1.c of these terms and conditions.

5. The permittee shall maintain documentation that non-atomized application equipment was employed for mechanical and filament winding resin application at the facility.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify the number of pounds of noncomplying resin (i.e., weight fraction of styrene monomer in excess of 41%) employed.

2. The permittee shall submit deviation (excursion) reports which identify the number of pounds of cleanup material with a VOC content in excess of 9.1 lbs/gallon.

3. The permittee shall submit deviation (excursion) reports which identify all exceedances of the combined rolling, 12-month VOC emissions limitation of 39.70 tons/yr from emissions units P001, P002, and P003.

4. The permittee shall submit deviation (excursion) reports which identify any use of atomized spray equipment for mechanical and filament winding resin application.

5. The permittee shall submit deviation (excursion) reports which identify any use of resins that did not meet the definition of vapor suppressant resin.

6. These deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

   a. Emissions Limitation
   VOC emissions from this emissions unit shall not exceed 47.74 lbs/hr.

   Applicable Compliance Method

   i. Calculation of the VOC emissions (E_f) based on emissions from resin usage (E_r), and emissions from catalyst usage (E_c) using the following equation:

$$E_f = E_r + E_c$$

   ii. Calculation of the VOC emissions from resin usage (E_r) using data from section A.III.1 and the following equation :

$$E_r = \left(\frac{M_r}{2000}UEF\right)_{Manual} + \left(\frac{M_r}{2000}UEF\right)_{Filament} + \left(\frac{M_r}{2000}UEF\right)_{Mechanical}$$

where

n = number of resins employed
M_r = maximum hourly resin usage of 344.8 lb/hr for mechanical, 624.5 lb/hr for filament, and 30.7 lb/hr for manual application.
UEF = 71.18 lbs/ton for non-atomized mechanical application with vapor suppression, 92.03 lb/ton for manual application with vapor suppression, and 107.62 lb/ton for filament application with

vapor suppression (taken from Table 1, Unified Emission Factors for Open Molding of Composites, ACMA July 23, 2001 using a VSR of 57%)

E_r = (30.7 lb resin/hr / 2000 lb/ton x 92.03 lb VOC/ton resin) + (344.8 lb resin/hr / 2000 lb/ton x 71.18 lb HAP/ton) + (624.5 lb resin/hr / 2000 lb/ton x 107.62 lb VOC/ton resin)
E_r = 47.29 lb VOC/hr

iii. Calculation of the VOC emissions from catalyst usage (E_c) using data from section A.III.2 and the following equation :

$$E_{c,VOC} = V_c C_{c,VOC}$$

where

V_c = the maximum hourly volume of catalyst employed = 1.62 gal/hr
$C_{c,HAP}$ = the maximum organic HAP/VOC content of catalyst employed = 0.278 lb/gal

E_c = 1.62 gal/hr x 0.278 lb VOC/gal
E_c = 0.45 lb VOC/hr

Thus,
E_f = 47.29 lbVOC/hr + 0.45 lbVOC/hr
E_f = 47.74 lbVOC/hr

b. Emission Limitation:

VOC emissions from the cleanup material shall not exceed 18.2 lb/hr.

Applicable Compliance Method:

Calculation of the VOC emissions from cleanup material usage (E_s) using data from section A.III.3. and the following equation:

$$E_s = V_s C_s$$

where

V_s = the maximum hourly volume of cleanup material employed = 2.0 gal/hr
C_s = the maximum VOC content of cleanup material employed = 9.1 lb VOC/gal

c. Emission Limitation:

The combined VOC emissions * from emissions units P001, P002, and P003, including cleanup material, shall not exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by summation of the annual emissions from emissions units P001, P002, and P003**.** The annual emission for emission units P001, P002 and P003 shall be determined in accordance with monitoring and record keeping found in sections A.III, 1,2,3 above.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P001 - Winding Station 1 - consists of one winding machine and mandrel, one chopper gun, one 4.0 square foot resin bath, and two 500-gallon resin day tanks with electric resin heaters.	None	

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P002 - Winding Station 2 - consists of one winding machine and mandrel, one chopper gun, one 4.0 square foot resin bath, and two 500-gallon resin day tanks with electric resin heaters.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 63 Subpart WWWW Reinforced Plastic Composites Production
	OAC rule 3745-31-05(C)	
	OAC rule 3745-21-07(G)(9)(g)	

Applicable Emissions Limitations/Control Measures	
Volatile Organic Compound (VOC)* emissions from this emissions unit for the resin and catalyst shall not exceed 47.74 lbs/hr.	* For the purposes of this permit, all Organic Compound (OC) emissions and HAP emissions are considered VOC emissions. VOC emissions include HAPs: Styrene and MEK.
VOC emissions from this emissions unit from the cleanup material shall not exceed 18.2 lbs/hr.	
See section A.2.b below	
The requirements of this rule also includes compliance with the requirements of OAC rule 3745-31-05(C) and 40 CFR Part 63 Subpart WWWW.	
See section A.2.a below.	
In accordance with OAC rule 3745-21-07(G)(9)(g), Best Available Technology (BAT) for this emissions unit, as established pursuant to OAC rule 3745-31-05, has been determined to be more stringent than, or inconsistent with, the requirements of OAC rule 3745-21-07(G).	
See Facility Specific Terms and Conditions, Part II, A.1	

2. Additional Terms and Conditions

2.a The combined VOC emissions * from emissions units P001, P002, and P003, including cleanup material, shall not exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions.

2.b This hourly allowable represents the maximum production capacity of this emissions unit; therefore, no hourly monitoring or record keeping is required to demonstrate compliance.

II. Operational Restrictions

1. The maximum styrene monomer weight percent, as applied, for each resin employed in this emissions unit shall not exceed forty-one percent (41%).

2. The VOC content of the cleanup material employed shall not exceed 9.1 lb VOC/gallon, as applied.

3. The permittee shall utilize non-atomized application equipment for mechanical and filament winding resin application in this emissions unit.

4. The permittee shall only employ vapor suppressant resins.

5. The volatile organic materials stored and used in emissions units P001, P002, and P003, including cleanup material, shall not cause combined VOC emissions to exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions. To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the emission limits specified in the following table:

Month(s)	Maximum Allowable Combined VOC Emission Rates(tons)
1	3.31
1-2	6.62
1-3	9.92
1-4	13.23
1-5	16.54
1-6	19.85
1-7	23.16
1-8	26.46
1-9	29.77

1-10	33.08
1-11	36.39
1-12	39.70

After the first 12 calendar months following issuance of this permit, compliance with the annual VOC emission rates from P001, P002, and P003, shall be based upon a rolling, 12-month summation of the tons of VOC emissions. These combined VOC emission shall be determined in accordance with section A.III.4. of these terms and conditions.

6. The permittee shall comply with each of the following during cleanup solvent operations:
   a. Solvent-laden applicators (e.g., rags) shall be placed in closed containers immediately after use, and the containers must be kept closed at all times except when depositing or removing the materials from the container.

   b. Solvent cleanup basins shall be closed at all times when not in use.

   c. Solvent containers for soaking tools and applicators must be kept closed at all times except when depositing or removing the items from the containers.

   d. All cleanup solvents shall be stored, transported, and disposed of in closed containers.

   e. All cleanup solvents shall be limited to non-chemically photo reactive materials.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for resins employed in emissions units P001, P002 and P003:
   a. the name and identification of each resin;

   b. documentation that each resin employed was a vapor suppressant resin;

   c. the mass of each resin employed (M_r), in tons;

   d. the weight fraction of styrene monomer (in percent) for each resin, as applied;

   e. calculation of the styrene emissions (E_r) from resin usage for each resin application technique using the following equation:

$$E_r = \sum_{i=1}^{n} M_{r,i} UEF$$

where
n = number of resins employed
UEF = United Emission Factor for open molding of composites based on the

styrene content of the resin and the resin application method taken from the following table:

Table 1. Unified Emission Factors for Open Molding of Composites, ACMA, July 23, 2001

Styrene Content in resin, %	**35**	**36**	**37**	**38**	**39**	**40**	**41**
Manual	94.4	100.1	106	111.6	117.3	123	128.7
Manual w/ Vapor Suppressed Resin VSR	**Manual emission factor** [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))						
Mechanical Non-Atomized	76.9	80	83.2	86.3	89.5	92.6	95.7
Mechanical Non-Atomized with VSR	**Mechanical Non-Atomized emission factor** [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))						
Filament Application with VSR	86.2	89.8	93.3	96.9	100.5	104.1	107.6

2. The permittee shall maintain monthly records of the following information for catalysts employed in emissions units P001, P002 and P003:

   a. the company identification for each catalyst;

   b. the volume of each catalyst employed (V_c), in gallons;

   c. the VOC content of each catalyst ($C_{c,VOC}$), in pounds per gallon;

   d. calculation of the VOC emissions from catalyst usage, using the following equations:

$$E_{c,VOC} = \sum_{i=1}^{n} V_c C_{c,VOC}$$

where
n = number of catalysts employed

3. The permittee shall maintain monthly records of the following information for cleanup materials employed in emissions units P001, P002 and P003:

   a. the name and identification for each cleanup material employed;

   b. the volume of each cleanup material employed (V_s), in gallons;

   c. the VOC content of each cleanup material employed (C_s), in pounds per gallon;

   d. calculation of the VOC emissions from cleanup material usage (E_s), using the following

equation:

$$E_s = \sum_{i=1}^{n} V_s C_s$$

where
n = number of cleanup materials employed

e. The permittee may calculate VOC emissions from cleanup materials in accordance with the following formula if waste cleanup materials are sent off site for disposal/reclamation:

VOC emissions = (total gallons of cleanup material used) x (solvent density of cleanup material) -(total gallons of cleanup material sent off site [minus solids]) x (solvent density of cleanup material).

4. The permittee shall maintain monthly records of the following information for emissions units P001, P002, and P003 :

a. during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative VOC emission rates from cleanup material, catalyst, and resin, for each calendar month. These calculations shall be performed in accordance with section A.V.1.c of these terms and conditions.

b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the VOC emission rates from cleanup material, catalyst, and resin. These calculations shall be performed in accordance with section A.V.1.c of these terms and conditions.

5. The permittee shall maintain documentation that non-atomized application equipment was employed for mechanical and filament winding resin application at the facility.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify the number of pounds of noncomplying resin (i.e., weight fraction of styrene monomer in excess of 41%) employed.

2. The permittee shall submit deviation (excursion) reports which identify the number of pounds of cleanup material with a VOC content in excess of 9.1 lbs/gallon.

3. The permittee shall submit deviation (excursion) reports which identify all exceedances of the combined rolling, 12-month VOC emissions limitation of 39.70 tons/yr from emissions units P001, P002, and P003.

4. The permittee shall submit deviation (excursion) reports which identify any use of atomized spray equipment for mechanical and filament winding resin application.

5. The permittee shall submit deviation (excursion) reports which identify any use of resins that did not meet the definition of vapor suppressant resin.

6. These deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

   a. Emissions Limitation
   VOC emissions from this emissions unit shall not exceed 47.74 lbs/hr.

   Applicable Compliance Method

   i. Calculation of the VOC emissions (E_f) based on emissions from resin usage (E_r), and emissions from catalyst usage (E_c) using the following equation:

   ii. Calculation of the VOC emissions from resin usage (E_r) using data from section A.III.1 and the following equation :

$$E_r = \left(\frac{M_r}{2000}UEF\right)_{Manual} + \left(\frac{M_r}{2000}UEF\right)_{Filament} + \left(\frac{M_r}{2000}UEF\right)_{Mechanical}$$

where

n = number of resins employed
M_r = maximum hourly resin usage of 344.8 lb/hr for mechanical, 624.5 lb/hr for filament, and 30.7 lb/hr for manual application.
UEF = 71.18 lbs/ton for non-atomized mechanical application with vapor suppression, 92.03 lb/ton for manual application with vapor suppression, and 107.62 lb/ton for filament application with vapor suppression (taken from Table 1, Unified Emission Factors for Open Molding of Composites, ACMA July 23, 2001 using a VSR of 57%)
E_r = (30.7 lb resin/hr / 2000 lb/ton x 92.03 lb VOC/ton resin) + (344.8 lb resin/hr /

2000 lb/ton x 71.18 lb HAP/ton) + (624.5 lb resin/hr / 2000 lb/ton x 107.62 lb VOC/ton resin)
E_r = 47.29 lb VOC/hr

iii. Calculation of the VOC emissions from catalyst usage (E_c) using data from section A.III.2 and the following equation :

$$E_{c,VOC} = V_c C_{c,VOC}$$

where

V_c = the maximum hourly volume of catalyst employed = 1.62 gal/hr
$C_{c,HAP}$ = the maximum organic HAP/VOC content of catalyst employed = 0.278 lb/gal

E_c = 1.62 gal/hr x 0.278 lb VOC/gal
E_c = 0.45 lb VOC/hr

Thus,
E_f = 47.29 lbVOC/hr + 0.45 lbVOC/hr
E_f = 47.74 lbVOC/hr

b. Emission Limitation:

VOC emissions from the cleanup material shall not exceed 18.2 lb/hr.

Applicable Compliance Method:

Calculation of the VOC emissions from cleanup material usage (E_s) using data from section A.III.3. and the following equation:

$$E_s = V_s C_s$$

where

V_s = the maximum hourly volume of cleanup material employed = 2.0 gal/hr
C_s = the maximum VOC content of cleanup material employed = 9.1 lb VOC/gal

c. Emission Limitation:

The combined VOC emissions * from emissions units P001, P002, and P003, including cleanup material, shall not exceed 39.70tons/yr, based upon a rolling, 12-month summation of VOC emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by summation of the annual emissions from emissions units P001, P002, and P003**.** The annual emission for emission units P001, P002 and P003 shall be determined in accordance with monitoring and record keeping found in sections A.III, 1,2,3 above.

VI. Miscellaneous Requirements

None

Emissions Unit ID: P002

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P002 - Winding Station 2 - consists of one winding machine and mandrel, one chopper gun, one 4.0 square foot resin bath, and two 500-gallon resin day tanks with electric resin heaters.	None	

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
P003 - Winding Station 3 - consists of one winding machine and mandrel, one chopper gun, one 4.0 square foot resin bath, and two 500-gallon resin day tanks with electric resin heaters.	OAC rule 3745-31-05 (A)(3)	40 CFR Part 63 Subpart WWWW Reinforced Plastic Composites Production
	OAC rule 3745-31-05(C)	
	OAC rule 3745-21-07(G)(9)(g)	

Applicable Emissions Limitations/Control Measures	
Volatile Organic Compound (VOC)* emissions from this emissions unit for the resin and catalyst shall not exceed 47.74 lbs/hr.	* For the purposes of this permit, all Organic Compound (OC) emissions and HAP emissions are considered VOC emissions. VOC emissions include HAPs: Styrene and MEK.
VOC emissions from this emissions unit from the cleanup material shall not exceed 18.2 lbs/hr.	
See section A.2.b below	
The requirements of this rule also includes compliance with the requirements of OAC rule 3745-31-05(C) and 40 CFR Part 63 Subpart WWWW.	
See Section A.2.b	
In accordance with OAC rule 3745-21-07(G)(9)(g), Best Available Technology (BAT) for this emissions unit, as established pursuant to OAC rule 3745-31-05, has been determined to be more stringent than, or inconsistent with, the requirements of OAC rule 3745-21-07(G).	
See Facility Specific Terms and Conditions, Part II, A.1	

2. Additional Terms and Conditions

2.a The combined VOC emissions * from emissions units P001, P002, and P003, including cleanup material, shall not exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions.

2.b This hourly allowable represents the maximum production capacity of this emissions unit; therefore, no hourly monitoring or record keeping is required to demonstrate compliance.

II. Operational Restrictions

1. The maximum styrene monomer weight percent, as applied, for each resin employed in this emissions unit shall not exceed forty-one percent (41%).

2. The VOC content of the cleanup material employed by the permittee in this facility shall not exceed 9.1 lb VOC/gallon, as applied.

3. The permittee shall utilize non-atomized application equipment for mechanical and filament winding resin application in this emissions unit.

4. The permittee shall only employ vapor suppressant resins.

5. The volatile organic materials stored and used in emissions units P001, P002, and P003, including cleanup material, shall not cause combined VOC emissions to exceed 39.70 tons/yr, based upon a rolling, 12-month summation of VOC emissions. To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the emission limits specified in the following table:

Month(s)	Maximum Allowable Combined VOC Emission Rates(tons)
1	3.31
1-2	6.62
1-3	9.92
1-4	13.23
1-5	16.54
1-6	19.85
1-7	23.16
1-8	26.46
1-9	29.77

1-10	33.08
1-11	36.39
1-12	39.70

After the first 12 calendar months following issuance of this permit, compliance with the annual VOC emission rates from P001, P002, and P003, shall be based upon a rolling, 12-month summation of the tons of VOC emissions. These combined VOC emission shall be determined in accordance with section A.III.4. of these terms and conditions.

6. The permittee shall comply with each of the following during cleanup solvent operations: a. Solvent-laden applicators (e.g., rags) shall be placed in closed containers immediately after use, and the containers must be kept closed at all times except when depositing or removing the materials from the container.

   b. Solvent cleanup basins shall be closed at all times when not in use.

   c. Solvent containers for soaking tools and applicators must be kept closed at all times except when depositing or removing the items from the containers.

   d. All cleanup solvents shall be stored, transported, and disposed of in closed containers.

   e. All cleanup solvents shall be limited to non-chemically photo reactive materials.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for resins employed in emissions units P001, P002 and P003:

   a. the name and identification of each resin;

   b. documentation that each resin employed was a vapor suppressant resin;

   c. the mass of each resin employed (M_r), in tons;

   d. the weight fraction of styrene monomer (in percent) for each resin, as applied;

   e. calculation of the styrene emissions (E_r) from resin usage for each resin application technique using the following equation:

$$E_r = \sum_{i=1}^{n} M_{r,i} UEF$$

where
n = number of resins employed

UEF = United Emission Factor for open molding of composites based on the styrene content of the resin and the resin application method taken from the following table:

Table 1. Unified Emission Factors for Open Molding of Composites, ACMA, July 23, 2001

Styrene Content in resin, %	**35**	**36**	**37**	**38**	**39**	**40**	**41**
Manual	94.4	100.1	106	111.6	117.3	123	128.7
Manual w/ Vapor Suppressed Resin VSR	**Manual emission factor** [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))						
Mechanical Non-Atomized	76.9	80	83.2	86.3	89.5	92.6	95.7
Mechanical Non-Atomized with VSR	**Mechanical Non-Atomized emission factor** [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))						
Filament Application with VSR	86.2	89.8	93.3	96.9	100.5	104.1	107.6

2. The permittee shall maintain monthly records of the following information for catalysts employed in emissions units P001, P002 and P003:

   a. the company identification for each catalyst;

   b. the volume of each catalyst employed (V_c), in gallons;

   c. the VOC content of each catalyst ($C_{c,VOC}$), in pounds per gallon;

   d. calculation of the VOC emissions from catalyst usage, using the following equations:

$$E_{c,VOC} = \sum_{i=1}^{n} V_c C_{c,VOC}$$

where
n = number of catalysts employed

3. The permittee shall maintain monthly records of the following information for cleanup materials employed in emissions units P001, P002 and P003:

   a. the name and identification for each cleanup material employed;

b. the volume of each cleanup material employed (V_s), in gallons;

c. the VOC content of each cleanup material employed (C_s), in pounds per gallon;

d. calculation of the VOC emissions from cleanup material usage (E_s), using the following equation:

$$E_s = \sum_{i=1}^{n} V_s C_s$$

where
n = number of cleanup materials employed;

e. The permittee may calculate VOC emissions from cleanup materials in accordance with the following formula if waste cleanup materials are sent off site for disposal/reclamation:

VOC emissions = (total gallons of cleanup material used) x (solvent density of cleanup material) -(total gallons of cleanup material sent off site [minus solids]) x (solvent density of cleanup material).

4. The permittee shall maintain monthly records of the following information for emissions units P001, P002, and P003 :

a. during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative VOC emission rates from cleanup material, catalyst, and resin, for each calendar month. These calculations shall be performed in accordance with section A.V.1.c of these terms and conditions.

b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the VOC emission rates from cleanup material, catalyst, and resin. These calculations shall be performed in accordance with section A.V.1.c of these terms and conditions.

5. The permittee shall maintain documentation that non-atomized application equipment was employed for mechanical and filament winding resin application at the facility.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify the number of pounds of noncomplying resin (i.e., weight fraction of styrene monomer in excess of 41%) employed.

2. The permittee shall submit deviation (excursion) reports which identify the number of pounds of cleanup material with a VOC content in excess of 9.1 lbs/gallon.

3. The permittee shall submit deviation (excursion) reports which identify all exceedances of the combined rolling, 12-month VOC emissions limitation of 39.70 tons/yr from emissions units P001, P002, and P003.

4. The permittee shall submit deviation (excursion) reports which identify any use of atomized spray equipment for mechanical and filament winding resin application.

5. The permittee shall submit deviation (excursion) reports which identify any use of resins that did not meet the definition of vapor suppressant resin.

6. These deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

$$E_f = E_r + E_c$$

a. Emissions Limitation

VOC emissions from this emissions unit shall not exceed 47.74 lbs/hr.

Applicable Compliance Method

i. Calculation of the VOC emissions (E_f) based on emissions from resin usage (E_r), and emissions from catalyst usage (E_c) using the following equation:

ii. Calculation of the VOC emissions from resin usage (E_r) using data from section A.III.1 and the following equation :

$$E_r = \left(\frac{M_r}{2000}UEF\right)_{Manual} + \left(\frac{M_r}{2000}UEF\right)_{Filament} + \left(\frac{M_r}{2000}UEF\right)_{Mechanical}$$

where

n = number of resins employed
M_r = maximum hourly resin usage of 344.8 lb/hr for mechanical, 624.5 lb/hr for filament, and 30.7 lb/hr for manual application.
UEF = 71.18 lbs/ton for non-atomized mechanical application with vapor suppression, 92.03 lb/ton for manual application with vapor suppression, and 107.62 lb/ton for filament application with vapor suppression (taken from Table 1, Unified Emission Factors for Open Molding of Composites, ACMA July 23, 2001 using a VSR of 57%)
E_r = (30.7 lb resin/hr / 2000 lb/ton x 92.03 lb VOC/ton resin) + (344.8 lb resin/hr / 2000 lb/ton x 71.18 lb HAP/ton) + (624.5 lb resin/hr / 2000 lb/ton x 107.62 lb VOC/ton resin)
E_r = 47.29 lb VOC/hr

iii. Calculation of the VOC emissions from catalyst usage (E_c) using data from section A.III.2 and the following equation :

$$E_{c,VOC} = V_c C_{c,VOC}$$

where

V_c = the maximum hourly volume of catalyst employed = 1.62 gal/hr
$C_{c,HAP}$ = the maximum organic HAP/VOC content of catalyst employed = 0.278 lb/gal

E_c = 1.62 gal/hr x 0.278 lb VOC/gal
E_c = 0.45 lb VOC/hr

Thus,
E_f = 47.29 lbVOC/hr + 0.45 lbVOC/hr
E_f = 47.74 lbVOC/hr

b. Emission Limitation:

VOC emissions from the cleanup material shall not exceed 18.2 lb/hr.

Applicable Compliance Method:

Calculation of the VOC emissions from cleanup material usage (E_s) using the following equation:

$$E_s = V_s C_s$$

where

V_s = the maximum hourly volume of cleanup material employed = 2.0 gal/hr
C_s = the maximum VOC content of cleanup material employed = 9.1 lb VOC/gal

c. Emission Limitation:

The combined VOC emissions * from emissions units P001, P002, and P003, including cleanup material, shall not exceed 39.70tons/yr, based upon a rolling, 12-month summation of VOC emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by summation of the annual emissions from emissions units P001, P002, and P003**.** The annual emission for emission units P001, P002 and P003 shall be determined in accordance with monitoring and record keeping found in sections A.III, 1,2,3 above.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P003 - Winding Station 3 - consists of one winding machine and mandrel, one chopper gun, one 4.0 square foot resin bath, and two 500-gallon resin day tanks with electric resin heaters.	None	

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
T001 - Storage Tank 1 - 10,000 gallon fixed roof resin storage tank with permanent submerged fill pipe.	OAC rule 3745-31-05 (A)(3)	Volatile Organic Compound (VOC)* emissions from the emissions unit shall not exceed 0.005 lb/hr and 0.022 tpy. See section A.2.bbelow
	OAC rule 3745-21-07 (D)(2)	See section A.2.a below.
	40 CFR Part 63 Subpart WWWW Reinforced Plastic Composites Production	See Facility Specific Terms and Conditions, Part II, A.1 * For the purposes of this permit, all Organic Compound (OC) emissions and HAP emissions are considered VOC emissions. VOC emissions include HAPs, Styrene and MEK.

2. Additional Terms and Conditions

2.a The storage vessel shall be equipped with a permanent submerged fill pipe.

2.b The hourly and annual allowables represent the maximum production capacity of this

emissions unit; therefore, no monitoring or recordkeeping is required to demonstrate compliance.

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

   a. Emissions Limitation
   VOC emissions from this emissions unit shall not exceed 0.005 lbs/hr and 0.022 tpy.

   Applicable Compliance Method:

   The permittee shall demonstrate compliance using the potential to emit of this emissions unit as calculated in the PTI application. The potential to emit is based upon the latest version of the TANKS program, the maximum tank material throughput, and the assumption the tank contains 100% styrene. The annual emissions shall be multiplied by 2000 lb/ton and divided by 8760 hr/yr to obtain the hourly emission limitation.

VI. Miscellaneous Requirements

None.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
T001 - Storage Tank 1 - 10,000 gallon fixed roof resin storage tank with permanent submerged fill pipe.		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
T002 - Storage Tank 2 - 10,000 gallon fixed roof resin storage tank with permanent submerged fill pipe.	OAC rule 3745-31-05 (A)(3)	Volatile Organic Compound (VOC)* emissions from the emissions unit shall not exceed 0.005 lb/hr and 0.022 tpy. See section A.2.b below
	OAC rule 3745-21-07 (D)(2)	See section A.2.a below.
	40 CFR Part 63 Subpart WWWW Reinforced Plastic Composites Production	See Facility Specific Terms and Conditions, Part II, A.1 * For the purposes of this permit, all Organic Compound (OC) emissions and HAP emissions are considered VOC emissions. VOC emissions include HAPs, Styrene and MEK.

2. Additional Terms and Conditions

2.a The storage vessel shall be equipped with a permanent submerged fill pipe.

2.b The hourly and annual allowables represent the maximum production capacity of this

emissions unit; therefore, no monitoring or record keeping is required to demonstrate compliance.

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

   a. Emissions Limitation

      VOC emissions from this emissions unit shall not exceed 0.005 lbs/hr and 0.022 tpy.

      Applicable Compliance Method:

      The permittee shall demonstrate compliance using the potential to emit of this emissions unit as calculated in the PTI application. The potential to emit is based upon the latest version of the TANKS program, the maximum tank material throughput, and the assumption the tank contains 100% styrene. The annual emissions shall be multiplied by 2000 lb/ton and divided by 8760 hr/yr to obtain the hourly emission limitation.

VI. Miscellaneous Requirements

None.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
T002 - Storage Tank 2 - 10,000 gallon fixed roof resin storage tank with permanent submerged fill pipe.		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
T003 - Storage Tank 3 - 10,000 gallon fixed roof resin storage tank with permanent submerged fill pipe.	OAC rule 3745-31-05 (A)(3)	Volatile Organic Compound (VOC)* emissions from the emissions unit shall not exceed 0.005 lb/hr and 0.022 tpy. See section A.2.b below
	OAC rule 3745-21-07 (D)(2)	See section A.2.a below
	40 CFR Part 63 Subpart WWWW Reinforced Plastic Composites Production	See Facility Specific Terms and Conditions, Part II, A.1 * For the purposes of this permit, all Organic Compound (OC) emissions and HAP emissions are considered VOC emissions. VOC emissions include HAPs, Styrene and MEK.

2. Additional Terms and Conditions

2.a The storage vessel shall be equipped with a permanent submerged fill pipe.

2.b The hourly and annual allowables represent the maximum production capacity of this emissions unit; therefore, no monitoring or record keeping is required to demonstrate

compliance.

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

   a. Emissions Limitation:

   VOC emissions from this emissions unit shall not exceed 0.005 lbs/hr and 0.022 tpy.

   Applicable Compliance Method:

   The permittee shall demonstrate compliance using the potential to emit of this emissions unit as calculated in the PTI application. The potential to emit is based upon the latest version of the TANKS program, the maximum tank material throughput, and the assumption the tank contains 100% styrene. The annual emissions shall be multiplied by 2000 lb/ton and divided by 8760 hr/yr to obtain the hourly emission limitation.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
T003 - Storage Tank 3 - 10,000 gallon fixed roof resin storage tank with permanent submerged fill pipe.		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None