

## § 63.5925

(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.

### OTHER REQUIREMENTS AND INFORMATION

#### § 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.

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(4) Approval of major changes to recordkeeping 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  $\geq$  12.0 or  $\leq$  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 Sanitation 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 or 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, and includes the mixing of putties or polyputties. 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 mon-

omer 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 plus 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, except for smoothing the material and/or vibrating the mold to remove bubbles. 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.

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*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.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50129, Aug. 25, 2005]

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

Streams	As specified in §63.5810, use the equations in the following table to calculate organic HAP emissions factors for specific open molding and centrifugal casting process streams.	With...	Use this organic HAP Emissions Factor (EF) Equation for materials with 33 percent or more organic HAP less than 33 percent organic HAP (19 percent for nonatomized gel coat) 23% ... for nonatomized gel coat)
1. open molding operation			
a. manual resin application	i. nonvapor-suppressed resin	$EF = 0.126 \times \%HAP \times 2000$	$EF = ((0.286 \times \%HAP) - 0.0529) \times 2000$
	ii. vapor-suppressed resin	$EF = 0.126 \times \%HAP \times 2000 \times (1 - (0.5 \times VSE \text{ factor}))$	$EF = ((0.286 \times \%HAP) - 0.0529) \times 2000 \times (1 - (0.5 \times VSE \text{ factor}))$
	iii. vacuum bagging/closed-mold curing with roll-out	$EF = 0.126 \times \%HAP \times 2000 \times 0.8$	$EF = ((0.286 \times \%HAP) - 0.0529) \times 2000 \times 0.8$
	iv. vacuum bagging/closed-mold curing without roll-out	$EF = (0.126 \times \%HAP \times 2000 \times 0.5)$	$EF = ((0.286 \times \%HAP) - 0.0529) \times 2000 \times 0.5$
b. atomized mechanical resin application	i. nonvapor-suppressed resin	$EF = 0.169 \times \%HAP \times 2000$	$EF = ((0.714 \times \%HAP) - 0.18) \times 2000$
	ii. vapor-suppressed resin	$EF = 0.169 \times \%HAP \times 2000 \times (1 - (0.45 \times VSE \text{ factor}))$	$EF = ((0.714 \times \%HAP) - 0.18) \times 2000 \times (1 - (0.45 \times VSE \text{ factor}))$
	iii. vacuum bagging/closed-mold curing with roll-out	$EF = 0.169 \times \%HAP \times 2000 \times 0.85$	$EF = ((0.714 \times \%HAP) - 0.18) \times 2000 \times 0.85$
	iv. vacuum bagging/closed-mold curing without roll-out	$EF = 0.169 \times \%HAP \times 2000 \times 0.55$	$EF = ((0.714 \times \%HAP) - 0.18) \times 2000 \times 0.55$
c. nonatomized mechanical resin application	i. nonvapor-suppressed resin	$EF = 0.107 \times \%HAP \times 2000$	$EF = ((0.157 \times \%HAP) - 0.0165) \times 2000$
	ii. vapor-suppressed resin	$EF = 0.107 \times \%HAP \times 2000 \times (1 - (0.45 \times VSE \text{ factor}))$	$EF = ((0.157 \times \%HAP) - 0.0165) \times 2000 \times (1 - (0.45 \times VSE \text{ factor}))$
	iii. closed-mold curing with roll-out	$EF = 0.107 \times \%HAP \times 2000 \times 0.85$	$EF = ((0.157 \times \%HAP) - 0.0165) \times 2000 \times 0.85$
	iv. vacuum bagging/closed-mold curing without roll-out	$EF = 0.107 \times \%HAP \times 2000 \times 0.55$	$EF = ((0.157 \times \%HAP) - 0.0165) \times 2000 \times 0.55$
d. atomized mechanical resin application with robotic or automated spray control	nonvapor-suppressed resin	$EF = 0.169 \times \%HAP \times 2000 \times 0.77$	$EF = 0.77 \times ((0.714 \times \%HAP) - 0.18) \times 2000$
e. filament application <sup>6</sup>	i. nonvapor-suppressed resin	$EF = 0.184 \times \%HAP \times 2000$	$EF = ((0.2746 \times \%HAP) - 0.0298) \times 2000$
	ii. vapor-suppressed resin	$EF = 0.12 \times \%HAP \times 2000$	$EF = ((0.2746 \times \%HAP) - 0.0298) \times 2000 \times 0.85$
f. atomized spray gel coat application	nonvapor-suppressed gel coat	$EF = 0.445 \times \%HAP \times 2000$	$EF = ((1.03646 \times \%HAP) - 0.195) \times 2000$

9. nonatomized spray gel coat application	nonvapor-suppressed gel coat	$EF = 0.185 \times \text{\$HAP} \times 2000$	$EF = ((0.4506 \times \text{\$HAP}) - 0.0505) \times 2000$
h. atomized spray gel coat application using robotic or automated spray	nonvapor-suppressed gel coat	$EF = 0.445 \times \text{\$HAP} \times 2000 \times 0.73$	$EF = ((1.03646 \times \text{\$HAP}) - 0.195) \times 2000 \times 0.73$
2. centrifugal casting operations <sup>7</sup>	a. heated air blown through molds	$EF = 0.558 \times (\text{\$HAP}) \times 2000$	$EF = 0.558 \times (\text{\$HAP}) \times 2000$
	b. vented molds, but air vented through the molds is not heated	$EF = 0.026 \times (\text{\$HAP}) \times 2000$	$EF = 0.026 \times (\text{\$HAP}) \times 2000$

Footnotes to Table 1

- The equations in this table are intended for use in calculating emission factors to demonstrate compliance with the emission limits in subpart WWWW. These equations may not be the most appropriate method to calculate emission estimates for other purposes. However, this does not preclude a facility from using the equations in this table to calculate emission factors for purposes other than rule compliance if these equations are the most accurate available.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, use the appropriate open molding equation with covered cure and no rollout to determine an emission factor for operations prior to the closing of the centrifugal casting mold. If the closed centrifugal casting mold is vented during spinning, use the appropriate centrifugal casting equation to calculate an emission factor for the portion of the process where spinning and cure occur. If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, and the mold is then closed and is not vented, treat the entire operation as open molding with covered cure and no rollout to determine emission factors.



TABLE 2 TO SUBPART WWWW OF PART 63—COMPLIANCE DATES FOR NEW AND EXISTING REINFORCED PLASTIC COMPOSITES FACILITIES

As required in §§63.5800 and 63.5840 you must demonstrate compliance with the standards by the dates in the following table:

If your facility is . . .	And . . .	Then you must comply by this date . . .
1. An existing source .....	a. Is a major source on or before the publication date of this subpart.	i. April 21, 2006, or ii. You must accept and meet an enforceable HAP emissions limit below the major source threshold prior to April 21, 2006.
2. An existing source that is an area source.	Becomes a major source after the publication date of this subpart.	3 years after becoming a major source or April 21, 2006, whichever is later.
3. An existing source, and emits less than 100 tpy of organic HAP from the combination of all centrifugal casting and continuous lamination/casting operations at the time of initial compliance with this subpart.	Subsequently increases its actual organic HAP emissions to 100 tpy or more from these operations, which requires that the facility must now comply with the standards in §63.5805(b).	3 years of the date your semi-annual compliance report indicates your facility meets or exceeds the 100 tpy threshold.
4. A new source .....	Is a major source at startup .....	Upon startup or April 21, 2003, whichever is later.
5. A new source .....	Is an area source at startup and becomes a major source.	Immediately upon becoming a major source.
6. A new source, and emits less than 100 tpy of organic HAP from the combination of all open molding, centrifugal casting, continuous lamination/casting, pultrusion, SMC and BMC manufacturing, and mixing operations at the time of initial compliance with this subpart.	Subsequently increases its actual organic HAP emissions to 100 tpy or more from the combination of these operations, which requires that the facility must now meet the standards in §63.5805(d).	3 years from the date that your semi-annual compliance report indicates your facility meets or exceeds the 100 tpy threshold.

TABLE 3 TO SUBPART WWWW OF PART 63—ORGANIC HAP EMISSIONS LIMITS FOR EXISTING OPEN MOLDING SOURCES, NEW OPEN MOLDING SOURCES EMITTING LESS THAN 100 TPY OF HAP, AND NEW AND EXISTING CENTRIFUGAL CASTING AND CONTINUOUS LAMINATION/CASTING SOURCES THAT EMIT LESS THAN 100 TPY OF HAP

As specified in §63.5805, you must meet the following organic HAP emissions limits that apply to you:

If your operation type is . . .	And you use . . .	<sup>1</sup> Your organic HAP emissions limit is . . .
1. open molding—corrosion-resistant and/or high strength (CR/HS).	a. mechanical resin application .....	113 lb/ton.
	b. filament application .....	171 lb/ton.
	c. manual resin application .....	123 lb/ton.
2. open molding—non-CR/HS .....	a. mechanical resin application .....	88 lb/ton.
	b. filament application .....	188 lb/ton.
	c. manual resin application .....	87 lb/ton.
3. open molding—tooling .....	a. mechanical resin application .....	254 lb/ton.
	b. manual resin application .....	157 lb/ton.
4. open molding—low-flame spread/low-smoke products.	a. mechanical resin application .....	497 lb/ton.
	b. filament application .....	270 lb/ton.
	c. manual resin application .....	238 lb/ton.
5. open molding—shrinkage controlled resins <sup>2</sup> .	a. mechanical resin application .....	354 lb/ton.
	b. filament application .....	215 lb/ton.
	c. manual resin application .....	180 lb/ton.
6. open molding—gel coat <sup>3</sup> .....	a. tooling gel coating .....	440 lb/ton.
	b. white/off white pigmented gel coating .....	267 lb/ton.
	c. all other pigmented gel coating .....	377 lb/ton.
	d. CR/HS or high performance gel coat ..	605 lb/ton.
	e. fire retardant gel coat ..	854 lb/ton.
	f. clear production gel coat .....	522 lb/ton.

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If your operation type is . . .	And you use . . .	<sup>1</sup> Your organic HAP emissions limit is . . .
7. centrifugal casting—CR/HS .....	a. resin application with the mold closed, and the mold is vented during spinning and cure. b. resin application with the mold closed, and the mold is not vented during spinning and cure. c. resin application with the mold open, and the mold is vented during spinning and cure. d. resin application with the mold open, and the mold is not vented during spinning and cure.	25 lb/ton. <sup>4</sup> NA—this is considered to be a closed molding operation. 25 lb/ton. <sup>4</sup> Use the appropriate open molding emission limit. <sup>5</sup>
8. centrifugal casting—non-CR/HS .....	a. resin application with the mold closed, and the mold is vented during spinning and cure. b. resin application with the mold closed, and mold is not vented during the spinning and cure. c. resin application with the mold open, and the mold is vented during spinning and cure. d. resin application with the mold open, and the mold is not vented during spinning and cure.	20 lb/ton. <sup>4</sup> NA—this is considered to be a closed molding operation. 20 lb/ton. <sup>4</sup> Use the appropriate open molding emission limit. <sup>5</sup>
9. pultrusion <sup>6</sup> .....	N/A .....	reduce total organic HAP emissions by at least 60 weight percent.
10. continuous lamination/casting .....	N/A .....	reduce total organic HAP emissions by at least 58.5 weight percent or not exceed an organic HAP emissions limit of 15.7 lbs of organic HAP per ton of neat resin plus and neat gel coat plus.

<sup>1</sup>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.

<sup>2</sup>This emission limit applies regardless of whether the shrinkage controlled resin is used as a production resin or a tooling resin.

<sup>3</sup>If you only apply gel coat with manual application, for compliance purposes treat the gel coat as if it were applied using atomized spray guns to determine both emission limits and emission factors. If you use multiple application methods and any portion of a specific gel coat is applied using nonatomized spray, you may use the nonatomized spray gel coat equation to calculate an emission factor for the manually applied portion of that gel coat. Otherwise, use the atomized spray gel coat application equation to calculate emission factors.

<sup>4</sup>For compliance purposes, calculate your emission factor using only the appropriate centrifugal casting equation in item 2 of Table 1 to this subpart, or a site specific emission factor for after the mold is closed as discussed in §63.5796.

<sup>5</sup>Calculate your emission factor using the appropriate open molding covered cure emission factor in item 1 of Table 1 to this subpart, or a site specific emission factor as discussed in §63.5796.

<sup>6</sup>Pultrusion machines that produce parts that meet the following criteria: 1,000 or more reinforcements or the glass equivalent of 1,000 ends of 113 yield roving or more; and have a cross sectional area of 60 square 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.

[70 FR 50131, Aug. 25, 2005]

TABLE 4 TO SUBPART WWWW OF PART 63—WORK PRACTICE STANDARDS

As specified in §63.5805, you must meet the work practice standards in the following table that apply to you:

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.

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For . . .	You must . . .
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. all mixing or BMC manufacturing operations <sup>1</sup> .....	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. all mixing or BMC manufacturing operations <sup>1</sup> .....	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. Vents routed to a 95 percent efficient control device are exempt from this requirement.
8. all mixing or BMC manufacturing operations <sup>1</sup> .....	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 that meet the following criteria: 1,000 or more reinforcements or the glass equivalent of 1,000 ends of 113 yield roving or more; and have a cross sectional area of 60 square inches or more that is not subject to the 95 percent organic HAP emission reduction requirement.	<ul style="list-style-type: none"> <li>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),</li> <li>ii. not permit point suction of ambient air in the wet-out area(s) unless that air is directed to a control device,</li> <li>iii. use devices such as deflectors, baffles, and curtains when practical to reduce air flow velocity across the wet-out area(s),</li> <li>iv. direct any compressed air exhausts away from resin and wet-out area(s),</li> <li>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,</li> <li>vi. cover all reservoirs, tanks, sumps, or HAP-containing materials storage vessels except when they are being charged or filled, and</li> <li>vii. cover or shield from ambient air resin delivery systems to the wet-out area(s) from reservoirs, tanks, or sumps where practical.</li> </ul>

<sup>1</sup> 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.

[70 FR 50133, Aug. 25, 2005]

**ALTERNATIVE ORGANIC HAP EMISSIONS LIMITS FOR OPEN MOLDING, CENTRIFUGAL CASTING, AND SMC MANUFACTURING OPERATIONS WHERE THE STANDARDS ARE BASED ON A 95 PERCENT REDUCTION REQUIREMENT**

As specified in §63.5805, as an alternative to 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 . . .	Your organic HAP emissions limit is a <sup>1</sup> . . .
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.

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If your operation type is . . .	And you use . . .	Your organic HAP emissions limit is a <sup>1</sup> . . .
5. Open molding—shrinkage controlled resins	c. Manual resin application	12 lb/ton.
	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 <sup>2</sup>	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 <sup>3,4</sup>	A vent system that moves heated air through the mold.	27 lb/ton.
8. Centrifugal casting—non-CR/HS <sup>3,4</sup>	A vent system that moves heated air through the mold.	21 lb/ton.
7. Centrifugal casting—CR/HS <sup>3,4</sup>	A vent system that moves ambient air through the mold.	2 lb/ton.
8. Centrifugal casting—non-CR/HS <sup>3,4</sup>	A vent system that moves ambient air through the mold.	1 lb/ton.
9. SMC Manufacturing	N/A	2.4 lb/ton.

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>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.

<sup>4</sup>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.

[68 FR 19402, Apr. 21, 2003, as amended at 70 FR 50133, Aug. 25, 2005]

TABLE 6 TO SUBPART WWWW OF PART 63—BASIC REQUIREMENTS FOR PERFORMANCE TESTS, PERFORMANCE EVALUATIONS, AND DESIGN EVALUATIONS FOR NEW AND EXISTING SOURCES USING ADD-ON CONTROL DEVICES

As required in § 63.5850 you must conduct performance tests, performance evaluations, and design evaluation according to the requirements in the following table:

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.