

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 63**

[OAR2003-0014—FRL-7461-9]

RIN 2060-AG98

**National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This action promulgates national emission standards for hazardous air pollutants (NESHAP) for existing and new fabric and other textile coating, printing, slashing, dyeing, and finishing operations. The final standards implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet the hazardous air pollutants (HAP) emission standards reflecting the application of the maximum achievable control technology (MACT).

The EPA has estimated that there are approximately 135 major source facilities in the printing, coating, and dyeing of fabrics and other textiles source category. The principal HAP emitted by these sources include toluene, methyl ethyl ketone (MEK), methanol, xylenes, methyl isobutyl ketone (MIBK), methylene chloride, trichloroethylene, n-hexane, glycol ethers (ethylene glycol), and formaldehyde. The final rule will reduce nationwide organic HAP emissions from major sources by approximately 4,100 tons per year or about 60 percent from baseline emissions.

Exposure to these substances has been demonstrated to cause adverse health effects such as irritation of the eye, lung, and mucous membranes, effects on the central nervous system, and damage to the liver. The EPA has classified two of the HAP, methylene chloride and trichloroethylene, as probable or possible human carcinogens. We do not have the type of current detailed data on each of the facilities covered by the final rule and the people living around the facilities that would be necessary to conduct an analysis to determine the actual population exposures to the HAP emitted from these facilities and potential for resultant health effects. Therefore, we do not know the extent to which the adverse health effects described above occur in the populations surrounding these facilities. However, to the extent the adverse effects do occur, the final rule will reduce emissions and subsequent exposures.

**DATES:** May 29, 2003. The incorporation by reference of certain publications listed in today's final rule is approved by the Director of the Federal Register as of May 29, 2003.

**ADDRESSES:** *Docket.* Docket ID No. OAR-2003-0014 (formerly Docket No. A-97-51) is located at the EPA Docket Center, EPA West, U.S. EPA (6102T), 1301 Constitution Ave., NW., Room B102, Washington, DC 20460.

*Background Information Document.* A background information document (BID) for the promulgated NESHAP may be obtained from the docket; the U.S. EPA Library (C267-01), Research Triangle Park, NC 27711, telephone (919) 541-2777; or from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, telephone (703) 487-4650. Refer to

“National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Printing, Coating, and Dyeing of Fabrics and Other Textiles—Background Information for Promulgated Standards” (EPA-453/R-03-006). The promulgation BID contains a summary of public comments made on the proposed standards and the EPA responses to the comments.

**FOR FURTHER INFORMATION CONTACT:** For information concerning applicability and rule determinations, contact your State or local air pollution control agency representative or the appropriate EPA Regional Office Representative. For information concerning the analyses performed in developing the final rule, contact Mr. Paul Almodóvar, Coatings and Consumer Products Group (C539-03), Emission Standards Division, U.S. EPA, Research Triangle Park, NC 27711; telephone number (919) 541-0283; facsimile number (919) 541-5689; electronic mail (e-mail) address: *almodovar.paul@epa.gov*.

**SUPPLEMENTARY INFORMATION:** *Regulated Entities.* The source category definition includes sources that engage in the coating, printing, slashing, dyeing, or finishing of any fabric or other textile. In general, such sources are covered under the North American Industrial Classification System (NAICS) codes. However, sources classified under other NAICS codes may be subject to the final standards if they meet the applicability criteria. Not all sources classified under the NAICS codes in the following table are subject to the final rule because some of the classifications cover products outside the scope of the NESHAP for printing, coating, and dyeing of fabrics and other textiles.

Categories and entities potentially regulated by this action include:

Category	NAICS code	Examples of regulated entities
Industry .....	31321	Broadwoven fabric mills.
	31322	Narrow fabric mills and Schiffl machine embroidery.
	313241	Weft knit fabric mills.
	313311	Broadwoven fabric finishing mills.
	313312	Textile and fabric finishing (except broadwoven fabric) mills.
	313320	Fabric coating mills.
	314110	Carpet and rug mills.
	326220	Rubber and plastics hoses and belting and manufacturing.
	339991	Gasket, packing, and sealing device manufacturing.
Federal government .....	.....	Not affected.
State/local/tribal government .....	.....	Not affected.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your operation is regulated by this action, you should examine the

applicability criteria in § 63.4281 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

*Docket.* The EPA has established an official public docket for this action under Docket ID No. OAR-2003-0014 (formerly Docket No. A-97-51). The official public docket consists of the documents specifically referenced in

this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the EPA Docket Center, EPA West, Room B-102, 1301 Constitution Avenue, NW., Washington, DC 20460. The Docket Center is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Docket is (202) 566-1742. A reasonable fee may be charged for copying docket materials.

Electronic Access. You may access this **Federal Register** document electronically through the EPA Internet under the **Federal Register** listings at <http://www.epa.gov/edocket/>.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at <http://www.epa.gov/edocket/> to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified above. Once in the system, select "search," then key in the appropriate docket identification number.

**Worldwide Web (WWW).** In addition to being available in the docket, an electronic copy of the final rule will also be available on the WWW through EPA's Technology Transfer Network (TTN). Following signature by the EPA Administrator, a copy of the final rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at <http://www.epa.gov/ttn/oarpg>. The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541-5384.

**Judicial Review.** This action constitutes final administrative action on the proposed NESHAP for printing, coating, and dyeing of fabrics and other textiles (67 FR 45054, July 11, 2002). Under CAA section 307(b)(1), judicial review of the final rule is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by July 28,

2003. Only those objections to the final rule which were raised with reasonable specificity during the period for public comment may be raised during judicial review. Under CAA section 307(b)(2), the requirements established by today's final rule may not be challenged later in civil or criminal proceedings brought by EPA to enforce the requirements.

**Outline.** The information presented in this preamble is organized as follows:

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  - H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use
  - I. National Technology Transfer Advancement Act
  - J. Congressional Review Act

## I. Background

### A. What Is the Source of Authority for Development of NESHAP?

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The

Printing, Coating, and Dyeing of Fabrics source category was listed on July 16, 1992 (57 FR 31576) under the Surface Coating Processes industry group. We proposed standards for and revised the title of this source category to Printing, Coating, and Dyeing of Fabrics and Other Textiles on July 11, 2002 (67 FR 45054). The title was revised to clarify the applicability of the standards to organic HAP-emitting operations performed on textile substrates including, but not limited to, fabric.

A major source of HAP is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year (tpy) or more of any one HAP or 25 tpy of any combination of HAP. An area source is any stationary source of HAP that is not a major source.

### B. What Criteria Are Used in the Development of NESHAP?

Section 112 of the CAA requires that we establish NESHAP for the control of HAP from both new and existing major sources. The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This level of control is commonly referred to as the MACT, for maximum achievable control technology.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standard is set at a level that assures that all major sources achieve the level of control already achieved by the better-controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT standards cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources).

In developing MACT, we also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of the cost of achieving the emissions reductions, any non-air health and environmental impacts, and energy requirements.

## II. What Changes and Clarifications Have We Made to the Proposed Standards?

In response to public comments received on the proposed standards, we made several changes in developing the final rule. The substantive comments and our responses and rule changes are summarized in the following sections. A more detailed summary of comments and responses can be found in the BID for the final rule which is available from several sources (see **ADDRESSES**).

### A. Applicability

We have made several changes to clarify the applicability of the final rule to certain coating, printing, slashing, dyeing, and finishing operations. We have also made changes to clarify which other web surface coating operations are not subject to the requirements of this final rule.

One commenter requested that we clarify the intent of proposed exemptions for research and development facilities from the rule requirements. The commenter believes the word facility and the definition of research or laboratory facility could be read to mean that the research or laboratory facility must be a facility separate from any facility that is doing commercial coating, dyeing, etc., in order to be exempt from subpart OOOO applicability. Typically in this source category, research and development activities are conducted on web coating and printing lines or dyeing and finishing operations located within a manufacturing plant. These research and development operations are co-located with manufacturing lines in order to test the product at the same manufacturing variables (e.g., temperature and humidity) as those of the products currently being used. Therefore, the final rule language has been written to reflect this. The use of the terms research or laboratory operations, rather than facilities, will also make this language consistent with the affected source description in the final rule. A corresponding change has also been made to the definition of research or laboratory facility to reflect this change.

One commenter observed that the proposal preamble described exemptions to the proposed rule for certain tape and tire manufacturing activities covered by the NESHAP for Paper and Other Web Coating and the NESHAP for Tire Manufacturing MACT, respectively. The commenter pointed out that the proposed rule text failed to mention any of these exemptions. These explicit exemptions were inadvertently

omitted from the proposed rule language. The final rule has been written to include the appropriate exemptions.

Three commenters expressed concern that, as proposed, the final rule could be interpreted to apply to synthetic fiber manufacturing operations. We have written the final rule to clarify that coating, slashing, dyeing, and finishing operations that are part of a synthetic fiber manufacturing process, and are part of the affected source of another NESHAP, such as the Group IV Polymers and Resins NESHAP (40 CFR 63, subpart JJJ) are not subject to the requirements of the final rule. For example, finishes that are applied in an affected source to which subpart JJJ applies are not subject to the requirements of the final rule.

One commenter noted the preamble to the proposed rule stated that coating and printing operations conducted at ambient temperatures and not involving drying or curing equipment are not subject to the provisions of the rule. The commenter requested that this language be included in the applicability section of the final regulation. In order to clarify the applicability of the final rule to web coating and printing operations conducted at ambient temperatures, the final rule has been written to exclude web coating or printing operations that do not involve drying or curing equipment such as ovens, tenter frames, steam cans, or dryers from the requirements of the final rule. Web coating and printing operations that dry at ambient temperatures are not representative of the coating and printing operations in the database used to determine the MACT floor for the coating and printing subcategory. These low-production rate operations make up only a small segment of the overall coating and printing industry. It was also determined that the emission capture and control technologies applicable to these operations would be considerably different (because of temperature, concentration, and flow rate differences) than those operations involving drying and curing equipment which are the basis of the MACT floor determination.

### B. Overlap With Other Rules

Two commenters pointed out that the preamble text of the proposed rule created duplicate applicability for some sources, i.e., web coating lines that coat paper and other web substrates as well as fabric and other textile substrates. The commenters requested clarification on which NESHAP would apply to web coating lines that coat both types of substrate. The Paper and Other Web

Coating NESHAP applies to web coating lines engaged in the coating of fabric for use in flexible packaging, pressure sensitive tapes and abrasive materials. The final rule has been written to clarify that web coating lines where both fabric and other webs are coated for use in flexible packaging, pressure sensitive tapes or abrasive materials or where fabric is being laminated to a paper and other web substrate are subject to 40 CFR 63, subpart JJJJ, and not today's final rule.

For other web coating lines engaged in the coating of fabric and other webs on the same web coating line, we have written in a provision to the final rule whereby a source can determine which MACT standard they must comply with based on the predominant surface coating activity conducted on the web coating line. Predominant activity has been determined to be 90 percent or more of the mass of substrate coated. For example, a web coating line that coats 90 percent paper and 10 percent fabric substrates would have to comply with the Paper and Other Web NESHAP (40 CFR 63, subpart JJJJ).

### C. Affected Source

Seven commenters stated that the proposed rule was inconsistent with regard to its applicability to cleaning materials and preparation activities. The commenters requested revisions to the proposed rule related to its applicability to cleaning materials and preparation activities. We agree with the commenters that the final rule should not regulate cleaning materials and preparation materials in the slashing or the dyeing and finishing subcategories. Slashing and dyeing and finishing operations are aqueous processes, and, therefore, the cleaning materials and preparation activities used in these operations do not contain organic HAP. The most common cleaning material used in these operations is water. The final rule has been written to clarify that cleaning and preparation materials used in the slashing and the dyeing and finishing subcategories are not regulated materials.

### D. Emission Limits and Options

Seven commenters requested that an add-on control compliance option be included in the final rule for the dyeing and finishing subcategory. The commenters pointed out that as the industry moves from mass base goods production to specialized niche production, and as new products and technologies are developed and implemented, flexibility in the production process will be the key to the survival of this industry. We agree

with the commenters, and, therefore, in order to provide more compliance flexibility with the emission limits, the final rule has been written to include an emission rate with add-on control device compliance option for the dyeing and finishing subcategory.

Numerous comments were received concerning high molecular weight, high boiling point, and highly water-soluble organic HAP from dyeing and finishing sources that are not emitted in the dyeing and finishing process but are discharged to the wastewater. This class of organic HAP has a low emission potential (*i.e.*, low Henry's Law constant) and also are typically readily biodegraded; as a result they are not emitted to the atmosphere in wastewater collection and treatment operations. The commenters requested that the final rule should allow sources to take into account in their compliance demonstrations organic HAP that are discharged to the wastewater and not emitted to the atmosphere. The final rule has been written to allow a dyeing and finishing affected source to account for organic HAP that are discharged to wastewater. An equivalent emission rate compliance option has been written in the final rule, and a procedure has been added to account for the mass of organic HAP contained in wastewater discharged to a publically owned treatment works (POTW) or onsite secondary wastewater treatment.

In order to be able to use the equivalent emission rate compliance option, a source must make an initial compliance demonstration that at least 90 percent of the mass of organic HAP contained in dyeing and finishing materials applied in the affected source is discharged to the wastewater; and that the total organic HAP emissions from the dyeing and finishing affected source are less than 10 tpy. The source must also document that the affected wastewater streams are discharged to a POTW or treated onsite in a treatment system that includes at least secondary treatment with biological treatment processes.

#### *E. Requirements for Compliance Options*

Several commenters asserted that the proposed rule did not include a compliance option for the web coating and printing subcategory which takes into account processes that use reactive materials that are not emitted to the atmosphere. The final rule has been written to allow the use of EPA Method 24 of 40 CFR part 60 Appendix A, for multi-component coatings with reactive materials to determine the mass fraction of non-aqueous volatile matter. This

empirical value can be used as a substitute for the mass fraction of organic HAP calculated from the sum of organic HAP in each coating component. Also, you may submit an alternative technique for approval by the Administrator, *e.g.*, stack testing with an enclosure to quantify the organic HAP actually emitted from the web coating process.

Several commenters requested that the compliance period for affected sources using the emission rate compliance option be changed to a 12-month rolling average period. Four of the commenters also submitted plant specific data demonstrating the extreme variability within both the coating and printing and the dyeing and finishing subcategories over time. The commenters asserted that a 12-month rolling average would take into account the seasonal variations in this industry and would better reflect the data used to set the MACT floor. Upon review of the data submitted by the commenters, the final rule has been written to allow a 12-month rolling average compliance period for sources using the emission rate compliance option. This would allow for the month-to-month variability in organic HAP content of coating, dyeing, and finishing materials.

Several commenters stated that the proposed rule was unclear as to how the compliance averaging calculations for dyeing materials are to be performed. The final rule language has been written to clarify that these compliance averaging calculations for dyeing materials should include only regulated materials as received from the manufacturer or supplier, and prior to any on-site alteration of the material (*e.g.*, mixing with solvent); and, that water added in a mixing operation is not a regulated material and should not be included in the determination of the total mass of dyeing and finishing materials applied during the compliance period. This would be consistent with how the MACT floors for this subcategory were calculated.

### **III. Summary of the Final Rule**

#### *A. What Source Categories and Subcategories Are Affected by the Final Rule?*

The final rule applies to you if you own or operate a fabric or other textile coating, printing, slashing, dyeing, or finishing operation or group of such operations that is a major source, or is located at a major source, or is part of a major source of HAP emissions, whether or not you manufacture the substrate. The coating, printing, slashing, dyeing, or finishing operations

themselves are not required to be major sources of HAP emissions in order for them to be covered by the final rule. As long as some part of the facility where the operations are located (*e.g.*, a process boiler or manufacturing operation associated with production of the final product) causes it to be a major source, the coating, printing, slashing, dyeing, and finishing operations are subject to the standards.

Any major HAP-emitting facility that performs coating, printing, slashing, dyeing, or finishing of fabric or other textiles is in this source category. As defined in the final rule, fabric or other textiles includes, but is not limited to, yarn, fiber, cord, thread, fabric and textile products, tents, roofing, soft baggage, marine fabric, drapery linings, flexible hoses, hot-air balloons, and awnings. The source category includes three subcategories (web coating and printing, slashing, and dyeing and finishing) as described in the following paragraphs.

The web coating and printing subcategory encompasses coating activities and equipment used to apply semi-liquid coating material to one or both sides of a textile web substrate. Once the coating is dried (and cured, if necessary) it bonds with the substrate to form a continuous solid film for decorative, protective, or functional purposes. Similarly, the web coating and printing subcategory includes printing activities and equipment used to apply color and patterns to textile substrates, usually in the form of a paste. After application of the printing material, the substrate is treated with steam, heat, or chemicals to fix the color.

The slashing subcategory includes the yarn preparation process performed on warp yarn prior to weaving. Slashing is the application of a chemical solution (known as sizing) to a yarn in a water solution followed by squeezing (dewatering) and drying.

The dyeing and finishing subcategory includes the equipment and operations involved in two separate but related processes that are both performed at some sources, while only one or the other is performed at other sources. Dyes and finishes are applied to yarn, fiber, cord, thread, or fabric in aqueous solutions and then dried. Dyeing is the application of color to the whole body of a textile substrate. Finishing is a process performed after dyeing that improves the appearance and/or usefulness of a textile substrate.

You are not subject to the final rule if your coating, printing, slashing, dyeing, or finishing operation is located at an area source. An area source of HAP

is any facility that has the potential to emit HAP but is not a major source. You may establish area source status by limiting the source's potential to emit HAP through appropriate mechanisms available through your permitting authority.

Exclusions from the source category include coating, printing, slashing, dyeing or finishing at a source using only coating, printing, slashing, dyeing, finishing, thinning, and cleaning materials that contain no organic HAP as defined in the final rule; coating, printing, slashing, dyeing, or finishing that occurs in a research or laboratory operation or that is part of a janitorial, building, and facility maintenance operation; coating, printing, slashing, dyeing, or finishing used by a facility and not for commerce, unless organic HAP emissions from these operations equal or exceed the facility major source HAP emissions threshold; a web coating line that applies coatings to both paper and fabric and other textile substrates used in flexible packaging, pressure sensitive tape or abrasive materials or where fabric is being laminated to a paper; a web coating line that applies coatings to tire cord and that also sometimes applies coatings to textile cord used in the production of belts and hoses; a coating, slashing, dyeing, or finishing operation that is conducted during a synthetic fiber manufacturing process included in the affected source of a NESHAP under 40 CFR 63; and a web coating or printing operation conducted at ambient temperatures and that does not involve drying or curing equipment such as, ovens, tenter frames, steam cans, or dryers; and coating, printing, slashing, dyeing, or finishing operations performed on-site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any State).

Web coating lines engaged in the coating of fabric and other webs on the same web coating line, must comply with the NESHAP applicable to the web coating line based on predominant surface coating activity conducted on the web coating line. Predominant activity has been determined to be 90 percent or more of the mass of substrate coated. For example, a web coating line that coats 90 percent paper and 10 percent fabric substrates would have to comply with the Paper and Other Web NESHAP (40 CFR 63, subpart JJJJ).

#### *B. What Is the Affected Source?*

An affected source is a stationary source, a group of stationary sources, or part of a stationary source to which a specific emission standard applies. The

final rule defines the affected source for each subcategory respectively, as the collection of all equipment associated with the web coating and printing, the slashing, or the dyeing and finishing performed on a textile substrate. For the purpose of defining the affected source, the textile substrate includes staple fibers and filaments suitable for conversion to or use as yarns, or for the preparation of woven, knit, or nonwoven fabrics; yarns made from natural or manufactured fibers; fabrics and other manufactured products made from staple fibers and filaments and from yarn; and garments and other articles fabricated from fibers, yarns, or fabrics. Also for each subcategory, the specific regulated materials are defined. Regulated materials are the organic HAP-containing materials that are the source of organic HAP emissions limited by the requirements of the NESHAP.

The affected source for the web coating and printing subcategory includes: All web coating and printing equipment used to apply cleaning materials to a substrate on the coating or printing line to prepare it for coating or printing material application, to apply coating or printing materials to a substrate and to dry or cure the coating or printing materials after application by exposure to heat or radiation (coating or printing material drying or curing); equipment used to clean web coating/printing operation equipment; all containers used for storage and vessels used for mixing coating, printing, thinning, or cleaning materials; all equipment and containers used for conveying coating, printing, thinning, or cleaning materials; all containers used for storage and all equipment and containers used for conveying waste materials generated by a web coating or printing operation; and all equipment, structures, and devices used to convey, treat, or dispose of wastewater streams or residuals generated by a web coating or printing operation. The regulated materials for the coating and printing subcategory are the coating, printing, thinning and cleaning materials used in the affected source.

The affected source for the slashing subcategory includes: All slashing equipment used to apply and dry size on warp yarn; all containers used for storage and vessels used for mixing slashing materials; all equipment and containers used for conveying slashing materials; all containers used for storage and all equipment and containers used for conveying waste materials generated by a slashing operation; and all equipment, structures, and devices used to convey, treat, or dispose of

wastewater streams or residuals generated by a slashing operation. The regulated materials for the slashing subcategory are the slashing materials used in the affected source.

The affected source for the dyeing and finishing subcategory includes: All dyeing and finishing equipment used to apply dyeing or finishing materials, to fix dyeing materials to the substrate, to rinse the textile substrate, or to dry or cure the dyeing or finishing materials; all containers used for storage and vessels used for mixing dyeing or finishing materials; all equipment and containers used for conveying dyeing or finishing materials; all containers used for storage and all equipment and containers used for conveying waste materials generated by a dyeing or finishing operation; and all equipment, structures, and devices used to convey, treat, or dispose of wastewater streams or residuals generated by a dyeing or finishing operation. The regulated materials for the dyeing and finishing subcategory are the dyeing and finishing materials used in the affected source.

#### *C. What Are the Emission Limits, Operating Limits, and Other Standards?*

Today's final rule limits organic HAP emissions from coating, printing, slashing, dyeing, and finishing operations. The final rule includes emission limits, operating limits, and work practice standards. Emission limits are established for the web coating and printing, slashing, and dyeing and finishing subcategories. Operating limits and work practice standards are established for the web coating and printing, and the dyeing and finishing subcategories.

1. *Emission Limits.* In the web coating and printing subcategory, today's final rule provides you the option of limiting organic HAP emissions to the atmosphere from each new and reconstructed affected source to one of the following three specified levels: (1) At least a 98 percent organic HAP overall control efficiency (OCE limit); (2) no more than 0.08 kilograms (kg) organic HAP/kg of coating solids applied (0.08 pound (lb) organic HAP/lb of coating solids applied) during each 12-month compliance period (emission rate limit); or (3) if you are using an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) on a dry basis is achieved and maintain the efficiency of the capture system at 100 percent (outlet concentration limit). The organic HAP emission limits for each existing affected source in the web

coating and printing subcategory are: (1) To achieve at least a 97 percent OCE limit; (2) an emission rate limit of no more than 0.12 kg organic HAP/kg of coating solids applied (0.12 lb organic HAP/lb of coating solids applied) in each 12-month compliance period; or (3) if you are using an oxidizer to control organic HAP emissions, operate the oxidizer to achieve the outlet concentration limit of no greater than 20 ppmv on a dry basis and maintain the efficiency of the capture system at 100 percent.

You may choose from several compliance options in the final rule to achieve the web coating and printing emission limits. You can comply through a pollution prevention approach by applying regulated materials that meet the emission rate limits, either individually (compliant material option) or collectively (emission rate without add-on controls option), during each compliance period. Second, you can use a capture system and add-on control device to meet either the applicable organic HAP OCE limit or emission rate limit. Third, you can use a 100 percent efficient capture system and an oxidizer that reduces organic HAP emissions to no more than 20 ppmv.

In the slashing subcategory, we are requiring each new, reconstructed and existing affected source to emit no organic HAP. This is not an absolute zero organic HAP limit since the compliance procedures specify that to determine organic HAP emissions, you count only organic HAP present in the materials you use at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1 percent or more for other organic HAP compounds. To comply with the slashing organic HAP emission limits, you must apply only materials that individually meet the standard during each compliance period.

In the dyeing and finishing subcategory, we are limiting organic HAP emissions from each new, reconstructed and existing affected source that conducts dyeing operations only or both dyeing and finishing operations to no more than 0.016 kg organic HAP per kg of dyeing material used (0.016 lb organic HAP per lb of dyeing material used) for each 12-month compliance period. You can comply with the dyeing and finishing organic HAP emission rate by applying materials that meet the emission rate, either individually or collectively, during each 12-month compliance period. Each new, reconstructed and

existing affected source that conducts only finishing operations is required to emit no more than 0.0003 kg of organic HAP per kg of finishing materials.

We are also including an equivalent emission rate option in the dyeing and finishing subcategory. In order to be able to use the equivalent emission rate compliance option, you must demonstrate that at least 90 percent of the mass of organic HAP contained in dyeing and finishing materials applied in the dyeing and finishing affected source are discharged to a wastewater treatment system and not emitted to the atmosphere; and that the total organic HAP emissions from the dyeing and finishing affected source must be less than 10 tons per year. To demonstrate continuous compliance you must document that your dyeing/finishing affected source operates within the operating scenarios used to demonstrate initial compliance and that affected wastewater streams are discharged to a POTW or treated onsite in a wastewater treatment system with biological treatment. You also must maintain purchase records showing that organic HAP emissions do not exceed 10 tons for each 12-month compliance period.

**2. Operating Limits.** If you reduce emissions from web coating and printing or dyeing and finishing operations by using a capture system and add-on control device (other than a solvent recovery system for which you conduct a liquid-liquid material balance), the operating limits apply to you. These limits are site-specific parameter limits that you determine during the initial performance test of the emission control system. For capture systems, you must develop a capture system monitoring plan. The monitoring plan must identify the operating parameter to be monitored, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures. In the plan, you must specify operating limits for the capture system operating parameter that demonstrate compliance with the applicable emission standard in the final rule. The monitoring plan must be available for inspection by your permitting authority upon request.

For thermal oxidizers, you must monitor the temperature in the firebox. For catalytic oxidizers, you either monitor the temperature at the inlet to the catalyst bed and the temperature difference across the catalyst bed, or you monitor the temperature at the inlet to the catalyst bed and prepare and implement an inspection and maintenance plan that includes periodic catalyst activity checks. For a control

device other than an oxidizer or if you wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of an alternative monitoring method.

The site-specific parameter limits that you establish must reflect operation of the capture system and add-on control devices during a performance test that demonstrates achievement of the emission limits during representative operating conditions.

**3. Work Practice Standards.** If you use an emission capture system and add-on control device for compliance, you are required to develop and implement a work practice plan to minimize organic HAP emissions from mixing operations, storage tanks and other containers, and handling operations for regulated materials and waste materials.

**4. Operations During Startup, Shutdown, or Malfunction.** If you use a capture system and add-on control device for compliance, you are required to develop and operate according to a startup, shutdown, and malfunction plan (SSMP) during periods of startup, shutdown, or malfunction of the capture system and add-on control device.

**5. General Provisions.** The General Provisions (40 CFR part 63, subpart A) also apply to you as indicated in the final rule. The General Provisions codify certain procedures and criteria for all 40 CFR part 63 NESHAP. The General Provisions contain administrative procedures, preconstruction review procedures for new sources, and procedures for conducting compliance-related activities such as notifications, reporting and recordkeeping, performance testing, and monitoring. The final rule refers to individual sections of the General Provisions to emphasize key sections that are relevant. However, unless specifically overridden in the final rule, all of the applicable General Provisions requirements apply to you.

#### *D. What Are the Testing and Initial Compliance Requirements?*

**1. Compliance Dates.** Existing affected sources will have to be in compliance with today's final rule no later than May 30, 2006. New and reconstructed affected sources will have to be in compliance upon startup of the affected source or by May 29, 2003, whichever is later.

Except for affected sources required to conduct performance tests, the initial compliance period for the compliant material option or the organic HAP overall control efficiency and oxidizer outlet organic HAP concentration options begins on the compliance date

and ends on the last day of the first full month following the compliance date. For affected sources required to conduct performance tests, the initial compliance period ends on the last day of the first full month following the performance test if the performance test is conducted later than the compliance date (the final rule allows the test to be conducted up to 180 days later).

Except for affected sources required to conduct performance tests, the initial compliance period for the emission rate without add-on controls option and the emission rate with add-on controls option begins on the compliance date and ends on the last day of the 12th full month following the compliance date. For affected sources required to conduct performance tests, the initial compliance period ends on the last day of the 12th full month following the performance test if the performance test is conducted later than the compliance date (the final rule allows the test to be conducted up to 180 days later).

Being in compliance means that the owner or operator of the affected source meets the requirements to achieve the emission limitations during the initial compliance period. At the end of the initial compliance period, the owner or operator will use the data and records generated to determine whether or not the affected source is in compliance with the organic HAP emission limit and other applicable requirements for that period. If the affected source does not meet the emission limit and other applicable requirements, it is out of compliance for the entire initial compliance period.

2. *Emission Limits.* With the exception of the slashing emission limit, there are several options for complying with the various emission limits specified in today's rule; the testing and initial compliance requirements vary accordingly. You will be able to use different compliance options for different coating, printing, dyeing, and finishing operations in the affected source for each subcategory and also for the same operation at different times, with the exception of the equivalent emission rate option for the dyeing and finishing affected source. If you choose to apply the equivalent emission rate option to your dyeing and finishing operations, it must be applied to the entire dyeing and finishing affected source.

3. *Compliance Based on Materials Applied in the Affected Source.* If you demonstrate compliance with the best coating and printing emission limits based on the materials applied, you must determine the mass of organic HAP and the mass fraction of solids in

all materials applied during the initial compliance period. You are required to demonstrate either that the organic HAP content of each coating and printing material meets the applicable emission limit and that you apply no organic HAP-containing thinning or cleaning materials (compliant material option); or that the total mass of organic HAP in all coating, printing, thinning, and cleaning materials applied divided by the total mass of solids in coating and printing materials applied meets the applicable emission limit (emission rate without add-on controls option).

The compliant material option is a pollution prevention option that allows you to easily demonstrate compliance by applying only low-organic HAP or non-organic HAP coating and printing materials. If you apply coating and printing materials that, based on their organic HAP content, individually meet the kg (lb) organic HAP emitted per kg (lb) solids applied levels in the applicable emission limits of the final rule and you apply only non-organic HAP thinners and other additives and cleaning materials, this compliance option is available to you. For this option, we have minimized recordkeeping and reporting requirements. You demonstrate compliance by using readily available purchase records containing manufacturer's formulation data to determine the organic HAP content of each coating, printing, or other material and the amount of each material applied. You do not need to perform any detailed emission rate calculations.

To demonstrate compliance with the compliant material option, you must demonstrate that the organic HAP content of each coating and printing material applied meets the applicable emission limit in the final rule, and that you applied no organic HAP-containing thinning or cleaning materials. For example, if you are using the compliant materials option for your existing source, you must demonstrate that: (1) Each coating and printing material applied has an organic HAP content no greater than 0.12 kg (0.12 lb) organic HAP per kg (lb) solids applied, (2) and that you applied no organic HAP-containing thinning or cleaning materials. Note that no organic HAP is not intended to mean a zero concentration. Materials that contain no organic HAP as defined in the final rule mean materials that contain organic HAP levels below typical reporting levels. These typical reporting levels only count organic HAP that are present at 0.1 percent or more by mass for OSHA-defined carcinogens and at 1.0

percent or more by mass for other compounds.

To determine the mass fraction of organic HAP in coating, printing, thinning, and cleaning materials and the mass fraction of solids in coating and printing materials, you may rely on manufacturer's formulation data. You are not required to perform tests or analysis of the material if formulation data are available. Alternatively, you can use results from the test methods listed below. You may also use alternative test methods provided you get EPA approval in accordance with 40 CFR 63.7(f). However, if there is any inconsistency between the test method results (either EPA's or an approved alternative) and manufacturer's data, the test method results would prevail for compliance and enforcement purposes.

- For mass fraction of organic HAP, you use EPA Method 311 of 40 CFR part 63, appendix A;
- The final rule allows you to use nonaqueous volatile matter as a surrogate for organic HAP, which would include all organic HAP plus all other organic compounds, and excluding water. If you choose this option, you use EPA Method 24 of 40 CFR part 60, appendix A; and
- For mass fraction of solids, you use EPA Method 24 of 40 CFR part 60, appendix A.

For multi-component coatings with reactive materials, the final rule allows the use of EPA Method 24 on the coating as applied to determine the mass fraction of non-aqueous volatile matter. You may use that value as a substitute for the mass fraction of organic HAP determined from the sum of organic HAP in each coating component. Also, you may submit an alternative technique for approval by the Administrator. (e.g., stack testing with an enclosure) to quantify the organic HAP actually emitted from the coating process.

The emission rate without add-on controls option is a pollution prevention option where you can demonstrate compliance based on the organic HAP contained in the mix of coating, printing, thinning, and cleaning materials you apply. This option allows you the flexibility to apply some individual coating or printing materials that do not individually meet the emission limit if you apply other low-organic HAP or non-organic HAP coating or printing materials such that overall emissions from the affected source during the compliance period meet the emission limit.

To demonstrate initial compliance with the emission rate limit without

add-on controls option, you are required to:

- Determine the quantity of each coating, printing, thinning, and cleaning material you applied.

- Calculate the mass of organic HAP in each coating, printing, thinning, and cleaning material you applied using the same types of data and methods previously described for the compliant material option.

- Determine the mass fraction of solids for each coating and printing material you applied using the same types of data or methods described for the compliant material option.

- Calculate the total mass of organic HAP in all regulated materials applied and total mass of solids for all coating and printing materials applied. You may subtract from the total mass of organic HAP the amount contained in waste materials you send to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266.

- Calculate the ratio of the total mass of organic HAP to the total mass of solids for the regulated materials applied.

- Record the calculations and results and include them in your Notification of Compliance Status.

Note that if you choose to use this option for a particular web coating/printing operation or group of operations rather than for an entire affected source, you must calculate the organic HAP emission rate using just the materials applied in that operation or group. You are required to separately demonstrate compliance for all other operations in the affected source.

To demonstrate compliance with the slashing emission limits, you must use the compliant material option and demonstrate that each slashing material applied during the initial compliance period contains no organic HAP. As was noted regarding thinning or cleaning materials applied in web coating/printing operations, no organic HAP is not intended to mean a zero concentration. Materials that contain no organic HAP should be interpreted to mean materials that contain organic HAP levels below the levels defined in the final rule, which (as previously noted) are typical reporting levels.

To demonstrate compliance with the dyeing and finishing emission limits, you are required to demonstrate either that the organic HAP content of each dyeing and finishing material applied meets the applicable emission limit (compliant material option), or that the total mass of organic HAP in all dyeing and finishing materials applied divided

by the total mass of dyeing and finishing materials applied meets the applicable emission limit (emission rate without add-on controls option).

As previously described for web coating/printing operations, the compliant material option is a pollution prevention option that allows you to easily demonstrate compliance by applying only low-organic HAP or non-organic HAP dyeing and finishing materials. To demonstrate compliance with the compliant material option, you must demonstrate that the organic HAP content of each dyeing and finishing material applied meets the applicable emission limit in the final rule. To determine the mass of organic HAP in dyeing and finishing materials, you must rely on manufacturer's formulation data. You are not required to perform tests or analysis of the material.

Again as previously described for web coating/printing operations, the emission rate without add-on controls option is a pollution prevention option where you can demonstrate compliance based on the organic HAP contained in the mix of dyeing and finishing materials you apply. This option allows you more flexibility than the compliant material option, but requires the calculation of the emission rate each month, for that month and the preceding 11 months. To demonstrate initial compliance with the emission rate without add-on controls option, you are required to:

- Determine the mass of each dyeing and finishing material you applied.

- Calculate the mass of organic HAP in each dyeing and finishing material you applied.

- Calculate the total mass of organic HAP in all regulated materials and the total mass of all regulated materials applied for the compliance period. You may subtract from the total mass of organic HAP the amount contained in waste materials you send to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266. You also may subtract from the total mass of organic HAP the amount demonstrated to be discharged to wastewater treatment and not emitted to the atmosphere, in accordance with the final rule requirements.

- Calculate the ratio of the total mass of organic HAP in the regulated materials applied to the total mass of regulated materials applied.

- Record the calculations and results and include them in your Notification of Compliance Status.

Note that if you choose to use this option for a particular dyeing/finishing operation or group of operations rather

than for an entire affected source, you would calculate the organic HAP emission rate using just the affected materials applied in that operation or group. You would need to separately demonstrate compliance for all other operations in the affected source.

You may also choose to use the equivalent emission rate option for your dyeing/finishing affected source. If you choose to use the equivalent emission rate option, it must be applied to the entire affected source; you may not use any other compliance option provided for any dyeing/finishing operation in your dyeing/finishing affected source.

In order to be able to use the equivalent emission rate option, you must demonstrate that at least 90 percent of the mass of organic HAP contained in dyeing and finishing materials applied in the dyeing/finishing affected source are discharged to the wastewater treatment system and not emitted to the atmosphere; and the total organic HAP emissions from the dyeing/finishing affected source must be less than 10 tons per year.

To demonstrate initial compliance with the equivalent emission rate option, you are required to:

- Determine the average organic HAP concentration of each affected wastewater stream using EPA Methods 305, 624, 625, 1624, 1625; other EPA methods; or methods other than EPA methods in accordance with specified requirements. You must consider the actual or anticipated production over the compliance period and include all wastewater streams generated by the affected dyeing/finishing operation(s) during this period. A performance test must be performed to characterize the wastewater stream generated for each operating scenario (in terms of factors affecting the fraction of organic HAP discharged to the wastewater, such as the type of substrate, the type and mass fraction of organic HAP entering the dyeing/finishing operation, and the process temperature and pressure) during the compliance period.

- Determine the mass flow rate of each wastewater stream using knowledge of the wastewater, historical records, or measurement.

- Document the wastewater is either discharged to a POTW or treated onsite in a treatment system that includes at least secondary treatment with biological treatment processes.

- Determine the mass of organic HAP contained in all of the wastewater streams characterized by the performance testing.

- Determine the fraction of organic HAP applied in the dyeing/finishing affected source that is discharged to the

wastewater. At least 90 percent of the organic HAP applied must be discharged to the wastewater.

- Determine the organic HAP emissions from the dyeing/finishing affected source. Organic HAP emissions must be less than 10 tons per year.

- Record the calculations and results and include them in your Notification of Compliance Status.

4. *Compliance Based on Using a Capture System and Add-on Control Device.* If you use a capture system and add-on control device on a web coating/printing operation, other than a solvent recovery system for which you conduct a liquid-liquid material balance, you must determine the capture and control efficiencies of the equipment or the oxidizer outlet organic HAP concentration. For the organic HAP emission rate limit, you also must determine the mass fraction of organic HAP and the mass fraction of solids in all materials applied during the initial compliance period. You are required to demonstrate either that the organic HAP OCE is greater than or equal to the applicable organic HAP OCE limit, that the oxidizer outlet organic HAP concentration is no greater than 20 ppmv on a dry basis and the efficiency of the capture system is 100 percent, or that the capture and control system reduces organic HAP emissions to a level no greater than the applicable emission rate limit in the final rule.

If you use a solvent recovery system for which you conduct a liquid-liquid material balance, you are required to demonstrate either that the organic HAP OCE determined by material balance during the initial compliance period is greater than or equal to the applicable organic HAP OCE limit or that the solvent recovery system reduces organic HAP emissions to a level no greater than the applicable emission rate limit.

The testing and initial compliance requirements associated with determining the OCE of the capture system and add-on control device are summarized in the following paragraphs.

If you use a capture system and add-on control device, other than a solvent recovery system for which you conduct material balances, you are required to conduct an initial performance test to determine the capture and control efficiencies of the equipment (or the capture efficiency of the capture system and the oxidizer outlet organic HAP concentration) and to establish operating limits to be achieved on a continuous basis. The performance test must be completed no later than 180 days after the compliance date for affected sources. If you are

demonstrating compliance with the applicable emission rate limit with add-on controls, you must schedule the performance test in time to obtain the results for use in calculating your emission rate for the initial compliance period.

You must determine both the efficiency of the capture system and either the organic HAP emission reduction efficiency of the add-on control device or the outlet organic HAP concentration of the oxidizer. To determine the capture efficiency, you must either verify the presence of a permanent total enclosure (PTE) using EPA Method 204 of 40 CFR part 51, appendix M (and all materials must be applied and dried or cured within the enclosure); or use one of three protocols in the final rule to measure capture efficiency. If you have a PTE and all regulated materials are applied and dried or cured within the enclosure and you route all exhaust gases from the enclosure to an add-on control device, then you assume 100 percent capture. To demonstrate compliance with the oxidizer outlet organic HAP concentration limit, 100 percent capture is required.

To determine the organic HAP emission reduction efficiency of the add-on control device, you must conduct measurements of the inlet and outlet gas streams. Only the outlet gas stream must be measured to determine outlet organic HAP concentration. The performance test must consist of three runs, each run lasting 1 hour, using the following EPA Methods in 40 CFR part 60, appendix A:

- Method 1 or 1A for selection of the sampling sites.
- Method 2, 2A, 2C, 2D, 2F, or 2G to determine the gas volumetric flow rate.
- Method 3, 3A, or 3B for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ANSI/ASME PTC 19.10–1981.
- Method 4 to determine stack moisture.
- Method 25 or 25A to determine organic volatile matter concentration. You must use Method 25A to demonstrate compliance with the oxidizer outlet organic HAP concentration limit because the limit is less than 50 ppmw. Alternatively, any other test method or data that have been validated according to the applicable procedures in Method 301 of 40 CFR part 63, appendix A, and approved by the Administrator, could be used.

If you use a solvent recovery system, you may determine the OCE using a

liquid-liquid material balance instead of conducting an initial performance test. If you use the material balance alternative, you are required to measure the amount of all regulated materials applied during the initial compliance period and determine the total volatile matter contained in these materials. You must also measure the amount of volatile matter recovered by the solvent recovery system during the compliance period. Then you must compare the amount recovered to the amount used to determine the OCE. You must record the calculations and results and include them in your Notification of Compliance Status.

Additional testing and initial compliance requirements associated with demonstrating compliance using the emission rate with add-on controls option are as follows:

- Determine the mass fraction of organic HAP in each coating, printing, thinning, and cleaning material applied and the mass fraction of solids in coating and printing materials applied during the initial compliance period, as described previously.

- Calculate the total mass of organic HAP in all regulated materials and total mass of solids for all coating and printing materials. You may subtract from the total mass of organic HAP the amount contained in waste materials you send to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266.

- Calculate the organic HAP emissions reductions from the controlled web coating or printing operations using the capture and control efficiencies determined during the performance test or the materials balance for the compliance period and the total mass of organic HAP in regulated materials applied in controlled web coating and printing operations.

- Calculate the ratio of the total mass of organic HAP emissions to the total mass of solids for the regulated materials applied during the initial compliance period.

- Record the calculations and results and include them in your Notification of Compliance Status.

- Develop and implement a work practice plan to minimize emissions from storage, mixing, and handling of organic HAP-containing materials.

If you choose to comply with the organic HAP emission rate limit by using a capture system and add-on control device on a dyeing/finishing operation, other than a solvent recovery system for which you conduct a liquid-liquid material balance, you must

determine the capture and control efficiencies of the equipment. You also must determine the mass fraction of organic HAP and the mass of all dyeing and finishing materials applied during the initial compliance period. You are required to demonstrate that the capture and control system reduces organic HAP emissions to a level no greater than the applicable emission rate limit in the final rule.

If you use a solvent recovery system for which you conduct a liquid-liquid material balance, you are required to demonstrate that the solvent recovery system reduces organic HAP emissions to a level no greater than the applicable emission rate limit.

The testing and initial compliance requirements associated with determining the OCE of the capture system and add-on control device are summarized in the following paragraphs.

If you use a capture system and add-on control device, other than a solvent recovery system for which you conduct material balances, you are required to conduct an initial performance test to determine the capture and control efficiencies of the equipment and to establish operating limits to be achieved on a continuous basis. The performance test must be completed no later than 180 days after the compliance date for affected sources. To demonstrate compliance with the applicable emission rate limit with add-on controls, you must schedule the performance test in time to obtain the results for use in calculating your emission rate for the initial compliance period.

You must determine both the efficiency of the capture system and the organic HAP emission reduction efficiency of the add-on control device. To determine the capture efficiency, you must either verify the presence of a PTE using EPA Method 204 of 40 CFR part 51, appendix M (and all materials must be applied and dried or cured within the enclosure); or use one of three protocols in the final rule to measure capture efficiency. If you have a PTE and all dyeing and finishing materials are applied and dried or cured within the enclosure and you route all exhaust gases from the enclosure to an add-on control device, then you assume 100 percent capture.

To determine the organic HAP emission reduction efficiency of the add-on control device, you must conduct measurements of the inlet and outlet gas streams. The performance test will consist of three runs, each run lasting 1 hour, using the following EPA Methods in 40 CFR part 60, appendix A:

- Method 1 or 1A for selection of the sampling sites.
- Method 2, 2A, 2C, 2D, 2F, or 2G to determine the gas volumetric flow rate.
- Method 3, 3A, or 3B for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ANSI/ASME PTC 19.10–1981.
- Method 4 to determine stack moisture.

Method 25 or 25A to determine organic volatile matter concentration. Alternatively, any other test method or data that have been validated according to the applicable procedures in Method 301 of 40 CFR part 63, appendix A, and approved by the Administrator, could be used.

If you use a solvent recovery system, you may determine the OCE using a liquid-liquid material balance instead of conducting an initial performance test. If you use the material balance alternative, you are required to measure the amount of all dyeing and finishing materials applied during the initial compliance period and determine the total volatile matter contained in these materials. You must also measure the amount of volatile matter recovered by the solvent recovery system during the compliance period. Then you must compare the amount recovered to the amount used to determine the OCE. You must record the calculations and results and include them in your Notification of Compliance Status.

Additional testing and initial compliance requirements associated with demonstrating compliance using the emission rate with add-on controls option are as follows:

- Determine the mass fraction of organic HAP in each dyeing and finishing material applied and the mass of each dyeing and finishing material applied during the initial compliance period, as described previously.
- Calculate the total mass of organic HAP in all dyeing and finishing materials. You may subtract from the total mass of organic HAP the amount contained in waste materials you send to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266. You also may subtract from the total mass of organic HAP the amount demonstrated to be discharged to wastewater and not emitted to the atmosphere, in accordance with the final rule requirements.

- Calculate the organic HAP emissions reductions from the controlled dyeing or finishing operations using the capture and control

efficiencies determined during the performance test or the materials balance for the compliance period and the total mass of organic HAP in dyeing and finishing materials applied in controlled dyeing and finishing operations.

- Calculate the ratio of the total mass of organic HAP emissions to the total mass of dyeing and finishing materials applied during the initial compliance period.

- Record the calculations and results and include them in your Notification of Compliance Status.

- Develop and implement a work practice plan to minimize emissions from storage, mixing, and handling of organic HAP-containing materials.

5. *Operating Limits.* As mentioned above, you must establish operating limits as part of the initial performance test of a capture system and add-on control device, other than a solvent recovery system for which you conduct liquid-liquid material balances. The operating limits are the minimum or maximum (as applicable) values achieved for capture systems and add-on control devices during the performance test, conducted under representative conditions, that demonstrated compliance with the emission limits.

The final rule specifies the parameters to monitor for the types of add-on control devices commonly used in the industry. You are required to install, calibrate, maintain, and continuously operate all monitoring equipment according to the manufacturer's specifications and ensure that the continuous parameter monitoring systems (CPMS) meet the requirements in the final rule. If you use add-on control devices other than those identified in the final rule, you must submit the operating parameters to be monitored to the Administrator for approval. The authority to approve the parameters to be monitored is retained by EPA and is not delegated to States.

If you use a thermal or catalytic oxidizer, you must continuously monitor the appropriate temperature and record it at least every 15 minutes. For thermal oxidizers, the temperature monitor is placed in the firebox or in the duct immediately downstream of the firebox before any substantial heat exchange occurs. The operating limit is the average temperature measured during the performance test, and for each consecutive 3-hour period the average temperature must be at or above this limit. For catalytic oxidizers, temperature monitors are placed at the nearest feasible point to the inlet and outlet of the catalyst bed. The operating

limits are the average temperature at the inlet to the catalyst bed and the average temperature difference across the catalyst bed during the performance test. For each 3-hour period, the average temperature and the average temperature difference must be at or above these limits. Alternatively, you are allowed to meet only the temperature limit at the inlet to the catalyst bed if you develop and implement an inspection and maintenance plan that includes periodic catalyst activity checks.

For each capture system you must conduct monitoring according to your monitoring plan, as described previously in this preamble.

6. **Work Practices.** If you use a capture system and add-on control device for compliance, you are required to develop and implement on an ongoing basis a work practice plan for minimizing organic HAP emissions to the atmosphere from storage, mixing, material handling, and waste handling operations. This plan must include a description of all steps taken to minimize emissions from these sources (e.g., using closed storage containers, practices to minimize emissions during filling and transfer of contents from containers, using spill minimization techniques, placing solvent-laden cloths in closed containers immediately after use, etc.). You must make the plan available for inspection if the Administrator requests to see it.

7. **Operations During Startup, Shutdown, or Malfunction.** If you use a capture system and add-on control device for compliance, you are required to develop and operate according to a SSMP during periods of startup, shutdown, or malfunction of the capture system and add-on control device.

#### *E. What Are the Continuous Compliance Provisions?*

1. **Emission Limits.** If you demonstrate compliance with the emission limits for slashing based on the materials purchased (compliant material option), you will demonstrate continuous compliance if, for each compliance period, the organic HAP content of each slashing material purchased meets the emission limits. You will use manufacturer's data to demonstrate compliance each compliance period as you did for the initial compliance period.

If you demonstrate compliance with the emission limits for web coating and printing based on the materials applied, you will demonstrate continuous compliance if, for each compliance period, either you apply only coating and printing materials that meet the

applicable emission limit and only non-organic HAP thinning and cleaning materials (compliant material option); or the ratio of total mass of organic HAP to total mass of solids in coating and printing materials applied is less than or equal to the emission limits (emission rate without add-on controls option). You follow the same procedures for calculating the organic HAP to coating and printing solids ratio that you used for the initial compliance period.

If you demonstrate compliance with the emission limits for dyeing and finishing based on the materials applied, you will demonstrate continuous compliance if, for each compliance period, either the organic HAP content of each dyeing and finishing material applied meets the applicable emission limit (compliant material option) or the total mass of organic HAP in all dyeing and finishing materials applied divided by the total mass of dyeing and finishing materials applied meets the applicable emission limit (emission rate without add-on controls option). You follow the same procedures for determining the mass of organic HAP in all materials applied during the compliance period that you used for the initial compliance period.

If you demonstrate compliance with the equivalent emission rate for dyeing and finishing, you will demonstrate continuous compliance, if for each 12-month compliance period, you operate within the operating scenarios for which wastewater streams were characterized during the initial compliance period, you document that affected wastewater streams were discharged to a POTW or treated onsite in a treatment system that includes at least secondary treatment with biological treatment processes, and organic HAP emissions from the dyeing/finishing affected source are less than 10 tons per year.

For each web coating or printing operation on which you use a capture system and add-on control device, other than solvent recovery for which you conduct a liquid-liquid material balance, the continuous parameter monitoring results for each compliance period will affect your compliance determination. If the monitoring results indicate no deviations from the operating limits and there were no bypasses of the add-on control device, you would assume the capture system and add-on control device are achieving the same emission reduction as they did during the performance test in which the operating limits were established. If you are demonstrating compliance with either the organic HAP OCE option or the emission rate with add-on controls option, you would then apply the OCE

to the total mass of organic HAP in regulated materials applied in controlled web coating or printing operations to determine the mass of organic HAP emissions from those operations for the compliance period. If there were any deviations from the operating limits during the compliance period or any bypasses of the add-on control device, you must account for them in the calculation of the applicable emission rate by assuming the capture system and add-on control device were achieving zero emission reduction during the periods of deviation.

For each web coating and printing operation on which you use a solvent recovery system and conduct a liquid-liquid material balance each compliance period, you will use the liquid-liquid material balance to determine the emission rate. You will be required to measure the amount of all regulated materials applied during each compliance period and determine the volatile matter content of these materials. You will also measure the amount of volatile matter recovered by the solvent recovery system during the compliance period and calculate the weight percent of organic HAP applied that was emitted to determine compliance with the organic HAP OCE option. If you are complying with the emission rate with add-on controls option, you must apply the OCE to the total mass of organic HAP in the regulated materials applied to determine total organic HAP emissions as input to the compliance demonstration.

For each dyeing and finishing operation on which you use a capture system and add-on control device, other than solvent recovery for which you conduct a liquid-liquid material balance, to comply with the emission rate with add-on controls option, the continuous parameter monitoring results for each compliance period will affect your compliance determination. If the monitoring results indicate no deviations from the operating limits and there were no bypasses of the add-on control device, you will assume the capture system and add-on control device are achieving the same emission reduction as they did during the performance test in which the operating limits were established. You will then apply the OCE to the total mass of organic HAP in dyeing and finishing materials applied in controlled dyeing and finishing operations to determine the mass of organic HAP emissions from those operations for the compliance period. If there were any deviations from the operating limits during the compliance period or any bypasses of the add-on control device, you must

account for them in the calculation of the applicable emission rate by assuming the capture system and add-on control device were achieving zero emission reduction during the periods of deviation.

For each dyeing and finishing operation on which you use a solvent recovery system and conduct a liquid-liquid material balance each compliance period, you will use the liquid-liquid material balance to determine the emission rate. You will be required to measure the amount of all dyeing and finishing materials applied during each compliance period and determine the volatile matter content of these materials. You will also measure the amount of volatile matter recovered by the solvent recovery system during the compliance period and calculate the weight percent of organic HAP used that was emitted to determine the organic HAP OCE. You must apply the OCE to the total mass of organic HAP in the dyeing and finishing materials applied to determine total organic HAP emissions as input to the compliance demonstration.

**2. Operating Limits.** If you use an emission capture system and add-on control device, the final rule requires you to achieve on a continuous basis the operating limits you establish during the performance test. If the continuous monitoring shows that the capture system and/or add-on control device are operating outside the range of values established during the performance test, you have deviated from the established operating limits.

If you operate a capture system and add-on control device with bypass lines that could allow emissions to bypass the add-on control device, you must demonstrate that organic HAP emissions collected by the capture system are routed to the add-on control device by monitoring for potential bypass of the add-on control device. You may choose from the following four monitoring procedures:

- Flow control position indicator to provide a record of whether the exhaust stream is directed to the add-on control device;
- Car-seal or lock-and-key valve closures to secure the bypass line valve in the closed position when the add-on control device is operating;
- Valve closure continuous monitoring to ensure any bypass line valve or damper is closed when the add-on control device is operating; or
- Automatic shutdown system to stop the web coating/printing or dyeing/finishing operation when flow is diverted from the add-on control device.

A deviation has occurred for any period of time the bypass monitoring procedures indicate that emissions are not routed to the add-on control device.

**3. Work Practices.** If you use an emission capture system and add-on control device for compliance, you are required to implement on an ongoing basis the work practice plan you developed during the initial compliance period. If you did not develop a plan for reducing organic HAP emissions or you do not implement the plan, this would be a deviation from the work practice standard.

**4. Operations During Startup, Shutdown, and Malfunction.** If you use a capture system and add-on control device for compliance, you are required to develop and operate according to a SSMP during periods of startup, shutdown, and malfunction of the capture system and add-on control device.

#### *F. What Are the Notification, Recordkeeping, and Reporting Requirements?*

You are required to comply with the applicable requirements in subpart A of 40 CFR part 63, as described in the final rule. The General Provisions notification requirements include: initial notifications, notification of performance test if you are complying using a capture system and add-on control device, notification of compliance status, and additional notifications required for affected sources with continuous monitoring systems. The General Provisions also require certain records and periodic reports.

**1. Initial Notifications.** If you own or operate an existing affected source, you are required to send a notification to the EPA Regional Office in the Region where your affected source is located and to your State agency no later than June 2, 2004. For new and reconstructed sources, you must send the notification within 120 days after the date of initial startup or September 26, 2003, whichever is later. The report notifies us and your State agency that you have an existing affected source that is subject to the final standards, or that you have constructed a new affected source. Thus, it allows you and the permitting authority to plan for compliance activities. You also need to send a notification of planned construction or reconstruction of a source that would be subject to the final rule and apply for approval to construct or reconstruct.

**2. Notification of Performance Test.** If you demonstrate compliance by using a capture system and add-on control device for which you do not conduct a

liquid-liquid material balance, you must conduct a performance test. The performance test is required within 180 days of the compliance date for an existing affected source. For a new or reconstructed affected source, the performance test would be required no later than 180 days after initial startup or November 25, 2003, whichever is later. You must notify us (or the delegated State or local agency) at least 60 calendar days before the performance test is scheduled to begin and submit a report of the performance test results no later than 60 days after the test.

**3. Notification of Compliance Status.** You must send us a Notification of Compliance Status within 30 days after the end of the initial compliance period. In the notification, you must certify whether each affected source has complied with the final standards, identify the option(s) you used to demonstrate initial compliance, summarize the data and calculations supporting the compliance demonstration, and provide information on any deviations from the emission limits, operating limits, or other requirements.

If you elect to comply by using a capture system and add-on control device for which you conduct performance tests, you must provide the results of the tests. Your notification must also include the measured range of each monitored parameter, the operating limits established during the performance test, and information showing whether the source has complied with its operating limits during the initial compliance period.

**4. Recordkeeping Requirements.** You are required to keep records of reported information and all other information necessary to document compliance with the final rule for 5 years. As required under the General Provisions, records for the 2 most recent years must be kept on-site; the other 3 years' records may be kept off-site. Records pertaining to the design and operation of the emission control and monitoring equipment must be kept for the life of the equipment. You need to keep all documentation supporting initial notifications and notifications of compliance status. If your affected source is complying with the slashing emission limits, you are required to keep purchase records of the organic HAP content of each slashing material.

Depending on the compliance option that you choose for your affected source complying with the dyeing and finishing or web coating and printing emission limits, you must keep records of the following:

- Organic HAP content, volatile matter content, coating and printing materials solids content, and quantity of the dyeing, finishing, coating, printing, thinning, and cleaning materials used during each compliance period.

- For the equivalent emission rate option for the dyeing and finishing subcategory, documentation that your dyeing/finishing affected source operated within the operating scenarios used to demonstrate initial compliance, affected wastewater streams were discharged to a POTW or treated onsite in a treatment system that includes at least secondary treatment with biological treatment processes, and organic HAP emissions from the affected source were less than 10 tpy.

- For the emission rate (with or without add-on controls) compliance options, calculations of your emission rate for each compliance period.

If your affected source is in the web coating and printing or the dyeing and finishing subcategory and you demonstrate compliance by using a capture system and add-on control device, you would also need to keep records of the following:

- All required measurements, calculations, and supporting documentation needed to demonstrate compliance with the standards.
- All results of performance tests and parameter monitoring.
- All information necessary to demonstrate conformance with your plan for minimizing emissions from mixing, storage, and waste handling operations.
- All information necessary to demonstrate conformance with the affected source's SSMP when the plan procedures are followed.
- The occurrence and duration of each startup, shutdown, or malfunction of the emission capture system and add-on control device.
- Actions taken during startup, shutdown, and malfunction that are different from the procedures specified in the affected source's SSMP.

- Each period during which a CPMS is malfunctioning or inoperative (including out-of-control periods).

The final rule requires you to collect and keep records according to certain minimum data requirements for the CPMS. Failure to collect and keep the specified minimum data is a deviation that is separate from any emission limits, operating limits, or work practice standards.

Deviations, as determined from these records, need to be recorded and also reported. A deviation is any instance when any requirement or obligation established by the final rule including, but not limited to, the emission limits, operating limits, and work practice standards, is not met.

If you use a capture system and add-on control device to reduce organic HAP emissions, you have to make your SSMP available for inspection if the Administrator requests to see it. The plan must stay in your records for the life of the affected source or until the source is no longer subject to the final standards. If you revise the plan, you need to keep the previous superseded versions on record for 5 years following the revision.

5. *Periodic Reports.* Each reporting year is divided into two semiannual reporting periods. If no deviations occur during a semiannual reporting period, you must submit a semiannual report stating that the affected source has been in continuous compliance. If deviations occur, you must include them in the report as follows:

- Report each deviation from the emission limit.
- Report each deviation from the work practice standards if you use an emission capture system and add-on control device.
- If you use an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances, report each deviation from an operating limit and each time a bypass line diverts emissions from the

add-on control device to the atmosphere.

- Report other specific information on the periods of time the deviations occurred.

You also are required to include in each semiannual report an identification of the compliance option(s) you used for each affected source and any time periods when you changed to another compliance option.

6. *Other Reports.* You are required to submit reports for periods of startup, shutdown, or malfunction of the capture system and add-on control device. If the procedures you follow during any startup, shutdown, or malfunction are inconsistent with your SSMP, you must report those procedures with your semiannual reports in addition to immediate reports required by 40 CFR 63.10(d)(5)(ii).

#### IV. Summary of Environmental, Energy, and Economic Impacts

The final rule will affect an estimated 135 major sources that perform coating, printing, slashing, dyeing and finishing operations. The impacts are presented relative to a baseline reflecting the level of control prior to the final rule. Due to consolidation throughout the industry, there is expected to be little growth within the printing, coating and dyeing industry during the next 5 years. Only three new coating sources and no new printing, slashing, dyeing, or finishing sources are projected. For more information on how impacts were estimated, see the docket for the final rule.

##### A. What Are the Air Impacts?

We estimated that compliance with the emission limits in the final rule will result in reductions of nationwide organic HAP emissions of 4,100 tpy (3,700 Megagrams per year (Mg/yr)). This represents a reduction of 60 percent from the baseline organic HAP emissions of 6,800 tpy (6,200 Mg/yr). The primary air impacts by subcategory associated with implementation of the final rule are:

Subcategory	Emissions before NESHAP (tpy)	Emissions after NESHAP (tpy)	Emission reduction (tpy)	Percent reduction (%)
Web coating and Printing .....	5,570	2,390	3,180	57
Dyeing and Finishing .....	900	160	750	83
Slashing .....	350	170	170	50
Source Category Nationwide Total .....	6,820	2,720	4,100	60

### *B. What Are the Cost Impacts?*

We have estimated the costs related to complying with the emission limitations and meeting the monitoring, recordkeeping, and reporting requirements. The costs to comply with the emission limitations include the costs of adding or upgrading emission control systems; the increased cost of compliant, low-formaldehyde permanent press finishes; and the cost of performance testing emission control systems. We have assumed for this analysis that all sources with affected slashing and dyeing operations will comply through the use of reformulated slashing, dyeing, thinning, and cleaning materials, and that these materials can be utilized without the need for capital expenditures. Annual costs for meeting the monitoring, recordkeeping, and reporting requirements of the final rule have also been included.

To comply with the final rule, web coating and printing affected sources that are not currently in compliance will likely use either upgraded existing emission control systems or new emission control systems. We estimated the capital and annual costs of carbon adsorbers, thermal oxidizers, catalytic oxidizers and coating rooms, using model plants based on information in our facility database. We examined the current level of control reported by each source in the database to determine control measures and associated model plant costs required to achieve compliance with the final rule's emission limits. Control costs estimated for the database sources were extrapolated to nationwide totals.

The dyeing and finishing compliance options are based on the use of low-organic HAP materials. Qualitative information concerning pollution prevention measures gathered from stakeholder meetings and site visits indicated that there would be substantial costs incurred in reducing the formaldehyde content of permanent press resins. We used information collected from a research and marketing company and textile chemical suppliers to estimate the incremental cost to produce finished fabric, using a compliant resin versus a formaldehyde resin. The incremental cost was applied to the quantity of fabric estimated to currently be finished with non-compliant formaldehyde resins.

Performance testing costs for coating and printing sources using add-on control systems to comply with the final rule include the labor hours required to conduct performance testing and monitoring on each emission capture system and add-on control device used

and to develop the associated data elements for recordkeeping and reporting purposes. Recordkeeping and reporting includes all labor hours related to installing recordkeeping and reporting systems, developing SSMP, initial notification, compliance status notification, performance test notification, performance test report, materials usage tracking, training personnel, and monitoring deviations and SSMP reports and recordkeeping.

We estimate total capital costs to comply with the emission standards for the approximately 135 existing major sources to be \$18.8 million, and nationwide annualized costs to be \$14.5 million. These nationwide annualized costs include approximately \$5.6 million associated with add-on control systems for web coating and printing operations, \$7.5 million in costs associated with finishing material usage, and \$1.4 million in monitoring, reporting, and recordkeeping costs.

The only new source costs will be for the three projected new coating sources. We have assumed that new coating sources will not install controls beyond those required for new source review, and these controls will meet the new source limit in the final rule. Therefore, we have assumed that these sources will not incur capital costs as a result of the final rule. The annual costs to comply with the monitoring, recordkeeping, and reporting requirements in the final rule for these new sources are estimated at \$13,000.

### *C. What Are the Economic Impacts?*

We prepared an economic impact analysis to evaluate the impacts the final rule would have on the producers and consumers of fabric and other textiles coating, printing, dyeing and finishing products, and society as a whole. The economic analysis determines total social costs, which take into account changes in behavior by producers, consumers, and foreign competitors of fabric products due to the imposition of compliance costs from the final rule.

Based on comments submitted by the industry, we modified our economic model to reflect strong international competition that may prevent domestic producers in the fabric finishing market from increasing prices. The model assumes that any change in domestic production in this market will be passed to foreign producers. The fabric coatings market is assumed to be able to increase prices to a minimal extent. Based on the estimated compliance costs of the final rule and the predicted changes in the coating and finishing markets, the estimated annualized social cost of the

final rule is projected to be \$14.5 million (2000 dollars).

It is projected that domestic producers in the fabric and textile industries will absorb \$12.9 million out of the total social cost, while only \$1.6 million will be passed through to consumers (in the fabric coatings market only). Domestic production in the fabric finishing market is predicted to decrease by 0.02 percent and, thus, transfer production to foreign producers, which represents an increase of 6.48 percent of total foreign production. With a minimal price increase in the fabric coatings market, domestic production is estimated to decrease by 0.08 percent, while foreign production is estimated to increase by 0.04 percent.

For new sources, it can be reasonably assumed that the investment decision to enter the coating, printing, dyeing and finishing industry may be slightly altered as a result of this final rule; however, other factors will weigh more heavily in this decision. For example, current economic trends have shown a continuous decline of the textile market as more manufacturing moves abroad. Only three new coating sources are projected to come online in the 5 years following promulgation of the final rule, and no additional printing, slashing, dyeing or fabric finishing sources are projected in the next 5 years. The three new coating sources that are projected to come online will incur a total of only \$13,000 in annual costs to meet the requirements of the final rule.

Quantified economic impacts of the final rule on printed, dyed, and slashed fabric products were not calculated in the economic impact analysis because the compliance costs for the sources that produce these products are minimal and relate only to monitoring, recordkeeping, and reporting activities. Based on a qualitative analysis of the printing, dyeing, and slashing markets, we have determined that the impact on the prices and quantities of these products would be insignificant. For more information, refer to the "Economic Impact Analysis of the Final Textile Coating, Printing, Dyeing and Finishing NESHAP" in the docket for the final rule.

### *D. What Are the Non-Air Health, Environmental, and Energy Impacts?*

Based on information from industry survey responses, we found no indication that the use of low-organic HAP content coating, printing, slashing, dyeing, finishing, thinning, and cleaning materials at existing sources will result in any increase or decrease in non-air health, environmental, and energy impacts. There will be no change

in the utility requirements associated with the use of these materials, so there will be no change in the amount of energy consumed as a result of the material conversion. Also, there will be no significant change in the amount of materials used or the amount of waste produced.

Non-air environmental and energy impacts will result from the installation of new and the upgrade of existing add-on controls by affected sources in the web coating and printing subcategory. Affected sources adding carbon adsorber systems will require increased cooling water usage for the condenser used to recover organic HAP from the regenerated carbon, and in certain situations for spray towers to cool the gas entering the carbon adsorber. The estimated increase in nationwide total cooling water usage will be 70.3 million gallons per year. The cooling water is assumed not to result in wastewater. There will be a small increase in water usage for steam to regenerate carbon. The steam used to regenerate carbon yields water requiring wastewater treatment. The estimated increase in nationwide total wastewater generation will be 3.8 million gallons per year.

Affected sources using existing catalytic oxidizers to comply with the final rule probably will be required to install larger volumes of catalysts and to replace the catalysts more frequently than current replacement cycles to maintain high performance levels, resulting in a small increase in solid waste generation. Similarly, affected sources that currently do not operate emission control systems and that install catalytic oxidizers to comply with the final rule will increase solid waste generation. Sometimes the spent catalyst is regenerated by the manufacturer for reuse. Activated carbon used in carbon adsorbers is returned to the manufacturer at the end of its useful life and converted to other salable products. Little solid waste impact is expected from this source.

Energy requirements for implementation of the compliance options for web coating and printing affected sources will include electricity to collect and treat ventilation air, electricity to light PTE, and natural gas to provide supplemental fuel for stable operation of oxidizers. The estimated increase in nationwide total electricity usage will be almost 2.8 million kilowatt hours per year, and the estimated nationwide total natural gas usage will increase by about 195 million standard cubic feet per year.

## V. Statutory and Executive Order Reviews

### A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the regulatory action is "significant" and, therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Executive Order defines "significant regulatory action" as one that is likely to result in a rule that may:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or
- (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that the final rule is not a "significant regulatory action" under the terms of Executive Order 12866, and is therefore not subject to OMB review.

### B. Paperwork Reduction Act

The information collection requirements in the final rule have been submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 2071.02) and a copy may be obtained from Susan Auby by mail at the Collection Strategies Division (2822T), U.S. EPA, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, by e-mail at [auby.susan@epa.gov](mailto:auby.susan@epa.gov), or by calling (202) 566-1672. A copy may also be downloaded off the Internet at <http://www.epa.gov/icr>. The information requirements are not enforceable until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information

submitted to EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies set forth in 40 CFR part 2, subpart B.

The final rule requires maintaining records of all coating, printing, slashing, dyeing, finishing, thinning, and cleaning materials data and calculations used to determine compliance. This information includes the amount (kg) used during each monthly compliance period, mass fraction organic HAP, and, for coating and printing materials only, mass fraction of solids.

If an add-on control device is used, records must be kept of the capture efficiency of the capture system, destruction or removal efficiency of the add-on control device, and the monitored operating parameters. In addition, records must be kept of each calculation of the affected sourcewide emissions for each compliance period and all data, calculations, test results, and other supporting information used to determine this value.

The annual public monitoring, recordkeeping, and reporting burden for this collection (averaged over the first 3 years after May 29, 2003 is estimated to total 213 labor hours per affected source at a total annual cost of \$1.4 million. This estimate includes, for affected sources with existing or newly-installed add-on control systems, a one-time performance test and report (with repeat tests where needed), one-time submission of a SSMP with semiannual reports for any event when the procedures in the plan were not followed, semiannual compliance status reports, and recordkeeping. There are no capital/startup costs associated with the monitoring requirements.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information

unless it displays a currently valid OMB control number. The OMB control numbers for EPA's rules are listed in 40 CFR part 9 and 48 CFR chapter 15. The OMB control number for the information collection requirements in this final rule will be listed in an amendment to 40 CFR part 9 in a subsequent **Federal Register** document after OMB approves the ICR.

### C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule. The EPA has also determined that the final rule will not have a significant economic impact on a substantial number of small entities. For the purposes of assessing the impacts of today's final rule on small entities, small entity is defined as: (1) A small business according to Small Business Administration (SBA) size standards by NAICS code ranging from 500 to 1,000 employees; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

We applied the definition of a small business as provided by the SBA at 13 CFR 121, and classified by the NAICS. The firms owning sources directly affected by the final rule are generally classified by the NAICS codes 313210 (Broadwoven Fabric Mills), 313311 (Broadwoven Fabric Finishing Mills), 313320 (Fabric Coating Mills), and 313312 (Textile and Fabric Finishing (except Broadwoven Fabric) Mills).

The SBA defines small businesses in NAICS codes 313210, 313311, and 313320 as those with fewer than 1,000 employees (as described in (1) above). In NAICS code 313312, the SBA defines a small business as one with fewer than 500 employees. In the past several years, production in the textile manufacturing industry has become more capital intensive, thus utilizing smaller numbers of employees. This leads a substantial fraction of the companies in the fabric and other textiles coating, printing, finishing, dyeing, and slashing source category to be considered small businesses based on SBA's small business size standards.

After considering the economic impacts of today's final rule on small entities, EPA has concluded that this action will not have a significant impact on a substantial number of small entities. We have identified 40 small companies classified as owning coating

operations by NAICS 313320. Of these 40 small coating companies, 22 (55 percent) are projected to face zero compliance costs. Fifteen (37.5 percent) face costs less than 1 percent of their sales, and two (5 percent) have cost-to-sales ratios between 1 and 3 percent. One (2.5 percent) of these companies has a cost-to-sales ratio that exceeds 3 percent (3.2 percent).

For the dyeing and finishing subcategory, the engineering analysis determined that at most five finishing businesses representing seven facilities, would face positive compliance costs in order to meet the requirements specified by the final rule. Of these five firms, we were able to identify one company as large. Therefore, four small businesses face compliance costs associated with the final rule.

We did not possess sufficient data to identify the five finishing facilities expected to face compliance costs, so the small business analysis for finishers consisted of a sensitivity analysis of cost-to-sales ratios using minimum, mean, median, and maximum estimated compliance costs for finishing facilities. Sales data were available for 58 percent of all small entities subject to the final rule. Using median compliance cost estimates for finishing sources, we found that three companies had cost-to-sales ratios between 1 and 3 percent and none had a cost-to-sales ratio exceeding 3 percent.

For the small and large companies that engage in dyeing and slashing, compliance costs are limited to monitoring, recordkeeping, and reporting costs. Based on a qualitative analysis, we conclude that the cost will be minimal.

### D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives

of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that the final rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. The maximum total annualized cost of the final rule for any year has been estimated to be \$14.5 million. Thus, today's final rule is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's final rule is not subject to the requirements of section 203 of the UMRA.

### E. Executive Order 13132: Federalism

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national

government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. It has been determined that the final rule does not have “federalism implications” because it does not meet the necessary criteria. Thus, Executive Order 13132 does not apply to the final rule. Although section 6 of Executive Order 13132 does not apply to the rule, EPA did consult with State and local officials to enable them to provide timely input in the development of the final rule.

*F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

Executive Order 13175, entitled “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” The final rule does not have tribal implications, as specified in Executive Order 13175. No tribal governments own or operate printing, coating, and dyeing affected sources. Thus, Executive Order 13175 does not apply to the final rule.

*G. Executive Order 13045: Protection of Children From Environmental Health & Safety Risks*

Executive Order 13045, “Protection of Children from Environmental Health Risks and Safety Risks” (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be “economically significant” as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks. Furthermore, the rule has been determined not to be “economically

significant” as defined under Executive Order 12866.

*H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use*

The final rule is not subject to Executive Order 13211, “Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use” (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

*I. National Technology Transfer and Advancement Act*

As noted in the proposed rule, section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995, Public Law No. 104–113, § 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. The VCS are technical standards (e.g., material specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency does not use available and applicable VCS.

This rulemaking involves technical standards. The EPA cites the following standards in this final rule: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 24, 25, 25A, 204, 204A through F, and 311. Consistent with the NTTAA, EPA conducted searches to identify VCS in addition to these EPA methods. No applicable VCS were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 204, 204A through F and 311. The search and review results have been documented and are placed in the docket (Docket ID No. OAR–2003–0014, formerly Docket No. A–97–51) for the final rule.

The VCS ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses” [Part 10, Instruments and Apparatus],” is cited in this rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ANSI/ASME PTC 19.10–1981, Part 10, is an acceptable alternative to Method 3B.

Six VCS: ASTM D1475–90, ASTM D2369–95, ASTM D3792–91, ASTM D4017–96a, ASTM D4457–85 (Reapproved 1991), and ASTM D5403–93 are already incorporated by reference (IBR) in EPA Method 24. Five VCS: ASTM D1979–91, ASTM D3432–89,

ASTM D4747–87, ASTM D4827–93, and ASTM PS 9–94 are IBR in EPA Method 311.

The search for emissions measurement procedures identified 16 other VCS. The EPA has not adopted these standards as alternatives in the final rule. The use of these VCS would be impractical or inconsistent with applicable law due to lack of equivalency, detail, quality assurance/quality control requirements or because they are still under development. Our search and review results are available in the docket (Docket ID No. OAR–2003–0014, formerly Docket No. A–97–51).

*J. Congressional Review Act*

The Congressional Review Act, 5 U.S.C. 801, *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the final rule and other required information to the United States Senate, the United States House of Representatives, and the Comptroller General of the United States prior to publication of the final rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2). The rule will be effective May 29, 2003.

**List of Subjects in 40 CFR Part 63**

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: February 28, 2003.

**Christine Todd Whitman,**  
*Administrator.*

■ For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

**PART 63—[AMENDED]**

■ 1. The authority citation for part 63 continues to read as follows:

**Authority:** 42 U.S.C. 7401, *et seq.*

■ 2. Section § 63.14 is amended by revising paragraph (i)(3). The revision reads as follows:

**§ 63.14 Incorporations by reference.**

\* \* \* \* \*

(i) \* \* \*

(3) ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus],” IBR approved for §§ 63.865(b), 63.3360(e)(1)(iii), 63.4166(a)(3), § 63.4362(a)(3), § 63.4766(a)(3), 63.4965(a)(3), § 53.5160(d)(1)(iii), 63.9307(c)(2), and 63.9323(a)(3).

\* \* \* \* \*

■ 3. Part 63 is amended by adding subpart OOOO to read as follows:

**Subpart OOOO—National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles**

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**Compliance Requirements for the Emission Rate With Add-On Controls Option**

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 63.4363 How do I establish the add-on control device operating limits during the performance test?  
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**Other Requirements and Information**

- 63.4370 Who implements and enforces this subpart?  
 63.4371 What definitions apply to this subpart?

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- Table 1 to Subpart OOOO of Part 63. Emission Limits for New or Reconstructed and Existing Affected Sources in the Printing, Coating, and Dyeing of Fabrics and Other Textiles Source Category  
 Table 2 to Subpart OOOO of Part 63. Operating Limits if Using Add-On Control Devices and Capture System  
 Table 3 to Subpart OOOO of Part 63. Applicability of General Provisions to Subpart OOOO  
 Table 4 to Subpart OOOO of Part 63. Default Organic HAP Mass Fraction for Solvents and Solvent Blends  
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**Subpart OOOO—National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles**

**What This Subpart Covers**

**§ 63.4280 What is the purpose of this subpart?**

This subpart establishes national emission standards for hazardous air

pollutants (NESHAP) for fabric and other textiles printing, coating and dyeing operations. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

**§ 63.4281 Am I subject to this subpart?**

(a) Except as provided in paragraphs (c) and (d) of this section, the source category to which this subpart applies is the printing, coating, slashing, dyeing or finishing of fabric and other textiles, and it includes the subcategories listed in paragraphs (a)(1) through (3) of this section.

(1) The coating and printing subcategory includes any operation that coats or prints fabric or other textiles. Coating and printing operations are defined in § 63.4371. Coated and printed substrates are used in products including, but not limited to, architectural structures, apparel, flexible hoses, hot-air balloons, lightweight liners, luggage, military fabric, rainwear, sheets, tents, threads and V-belts. The coating and printing subcategory includes any fabric or other textile web coating line that also performs coating on another substrate unless such coating is specifically excluded from this subpart by another NESHAP in this part or is exempted from the requirements of this subpart based on the criteria in paragraph (e) of this section. Web coating lines exclusively dedicated to coating or printing fabric and other textiles are subject to this subpart.

(2) The slashing subcategory includes any operation with slashing operations as defined in § 63.4371. In the slashing process, sizing compounds are applied to warp yarn to bind the fiber together and stiffen the yarn to provide abrasion resistance during weaving.

(3) The dyeing and finishing subcategory includes any operation that dyes or finishes a fabric or other textiles. Dyeing and finishing operations are defined in § 63.4371. Dyed and finished textiles are used in a wide range of products including, but not limited to, apparel, carpets, high-performance industrial fabrics, luggage, military fabrics, outer wear, sheets, towels, and threads.

(b) You are subject to this subpart if you own or operate a new, reconstructed, or existing affected source, as defined in § 63.4282, that is a major source, is located at a major source, or is part of a major source of hazardous air pollutants (HAP). Major source is defined in § 63.2 of this part.

(c) This subpart does not apply to coating, printing, slashing, dyeing, or finishing operations that meet any of the

criteria of paragraphs (c)(1) through (5) of this section.

(1) Coating and printing, slashing, or dyeing and finishing operations conducted at a source that uses only regulated materials that contain no organic HAP as defined in § 63.4371.

(2) Coating, printing, slashing, dyeing, or finishing that occurs at research or laboratory operations or that is part of janitorial, building, and facility maintenance operations.

(3) Coating, printing, slashing, dyeing, or finishing operations used by a facility and not for commerce, unless organic HAP emissions from the coating, printing, slashing, dyeing or finishing operations are as high as the major source HAP emissions specified in paragraph (b) of this section.

(4) Fabric and other textile substrate web coating or printing operations conducted at ambient temperatures that do not involve drying or curing equipment such as ovens, tenter frames, steam cans, or dryers.

(5) Coating, printing, slashing, dyeing, or finishing operations performed on-site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any State).

(d) Web coating lines specified in paragraphs (d)(1) through (3) of this section are not part of the affected source of this subpart.

(1) Any web coating operation that is part of the affected source of subpart JJJJ of this part (national emission standards for hazardous air pollutants for paper and other web coating). This would include any web coating line that coats both a paper and other web substrate and a fabric or other textile substrate for use in flexible packaging, pressure sensitive tape and abrasive materials, or any web coating line laminating a fabric substrate to paper.

(2) Any web coating operation that is part of the affected source of subpart XXXX of this part (NESHAP for tire manufacturing). This would include any web coating line that applies coatings to both tire cord and to textile cord used in the production of belts and hoses.

(3) Coating, slashing, dyeing, or finishing operations at a synthetic fiber manufacturing facility included in the affected source of another subpart of this part, such as subpart F (NESHAP for the synthetic organic chemical manufacturing industry) or subpart JJJ (NESHAP for group IV polymers and resins).

(e) Any web coating line that coats both fabric and other textiles, and another substrate such as paper, must comply with the subpart of this part that applies to the predominant activity

conducted on the affected source. Predominant activity for this subpart is 90 percent of the mass of substrate coated during the compliance period. (For example, a web coating line that coats 90 percent or more of a paper substrate, and 10 percent or less of a fabric or other textile substrate, would be subject to 40 CFR 63, subpart JJJJ.)

**§ 63.4282 What parts of my plant does this subpart cover?**

(a) This subpart applies to each new, reconstructed, and existing affected source within each of the three subcategories listed in § 63.4281(a).

(b) The affected source for the web coating and printing subcategory is the collection of all of the items listed in paragraphs (b)(1) through (5) of this section that are used in fabric and other textiles web coating and printing operations. The regulated materials for the web coating and printing subcategory are the coating, printing, thinning and cleaning materials used in the affected source.

(1) All web coating and printing equipment used to apply cleaning materials to a substrate on the coating or printing line to prepare it for coating or printing material application, to apply coating or printing materials to a substrate and to dry or cure the coating or printing materials, or equipment used to clean web coating/printing operation equipment;

(2) All containers used for storage and vessels used for mixing coating, printing, thinning, or cleaning materials;

(3) All equipment and containers used for conveying coating, printing, thinning, or cleaning materials;

(4) All containers used for storage, and all equipment and containers used for conveying waste materials generated by a coating or printing operation; and

(5) All equipment, structures, and/or devices(s) used to convey, treat, or dispose of wastewater streams or residuals generated by a coating or printing operation.

(c) The affected source for the slashing subcategory is the collection of all of the items listed in paragraphs (c)(1) through (5) of this section that are used in slashing operations. The regulated materials for the slashing subcategory are the slashing materials used in the affected source.

(1) All slashing equipment used to apply and dry size on warp yarn;

(2) All containers used for storage and vessels used for mixing slashing materials;

(3) All equipment and containers used for conveying slashing materials;

(4) All containers used for storage and all equipment and containers used for

conveying waste materials generated by a slashing operation; and

(5) All equipment, structures, and/or devices(s) used to convey, treat, or dispose of wastewater streams or residuals generated by a slashing operation.

(d) The affected source for the dyeing and finishing subcategory is the collection of all of the items listed in paragraphs (d)(1) through (5) of this section that are used in dyeing and finishing operations. The regulated materials for the dyeing and finishing subcategory are the dyeing and finishing materials used in the affected source.

(1) All dyeing and finishing equipment used to apply dyeing or finishing materials, to fix dyeing materials to the substrate, to rinse the textile substrate, or to dry or cure the dyeing or finishing materials;

(2) All containers used for storage and vessels used for mixing dyeing or finishing materials;

(3) All equipment and containers used for conveying dyeing or finishing materials;

(4) All containers used for storage, and all equipment and containers used for conveying, waste materials generated by a dyeing or finishing operation; and

(5) All equipment, structures, and/or devices(s) used to convey, treat, or dispose of wastewater streams or residuals generated by a dyeing or finishing operation.

(e) An affected source is a new source if it meets the criteria in paragraph (e)(1) of this section and the criteria in either paragraph (e)(2) or (3) of this section.

(1) You commenced the construction of the source after July 11, 2002.

(2) The web coating and printing, slashing, or dyeing and finishing operation is performed at a source where no web coating and printing, slashing, or dyeing and finishing operation was previously performed.

(3) The web coating and printing, slashing, or dyeing and finishing operation is performed in a subcategory in which no web coating and printing, slashing, or dyeing and finishing operation was previously performed.

(f) An affected source is reconstructed if you meet the criteria as defined in § 63.2.

(g) An affected source is existing if it is not new or reconstructed.

**§ 63.4283 When do I have to comply with this subpart?**

The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) through (c) of this section. The compliance date begins

the initial compliance period during which you conduct the initial compliance demonstration described in §§ 63.4320, 63.4330, 63.4340, and 63.4350.

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:

(1) If the initial startup of your new or reconstructed affected source is before May 29, 2003, the compliance date is May 29, 2003.

(2) If the initial startup of your new or reconstructed affected source occurs after May 29, 2003, the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is the date 3 years after May 29, 2003.

(c) For an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP emissions, the compliance date is specified in paragraphs (c)(1) and (2) of this section.

(1) For any portion of the source that becomes a new or reconstructed affected source subject to this subpart, the compliance date is the date of initial startup of the affected source or May 29, 2003, whichever is later.

(2) For any portion of the source that becomes an existing affected source subject to this subpart, the compliance date is the date 1 year after the area source becomes a major source or 3 years after May 29, 2003, whichever is later.

(d) You must meet the notification requirements in § 63.4310 according to the dates specified in that section and in subpart A of this part. Some of the notifications must be submitted before the compliance dates described in paragraphs (a) through (c) of this section.

### Emission Limitations

#### § 63.4290 What emission limits must I meet?

You must meet the emission limit for the subcategory or subcategories present in your facility. The three subcategories are: Web coating and printing, slashing, and dyeing and finishing. Table 1 to this subpart presents the emission limits for a new or reconstructed affected source and for an existing affected source in each subcategory.

#### § 63.4291 What are my options for meeting the emission limits?

You must include all regulated materials (as defined in § 63.4371) used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable

emission limit in Table 1 to this subpart. To make this determination, you must use at least one of the compliance options for the subcategory listed in paragraphs (a) through (c) of this section.

(a) *Web coating and printing.* You may apply any one of the compliance options in paragraphs (a)(1) through (5) of this section to an individual web coating/printing operation, or to multiple web coating/printing operations in the affected source as a group, or to the entire affected source in the web coating and printing subcategory. You may use different compliance options for different web coating/printing operations or at different times on the same web coating/printing operation. However, you may not use different compliance options at the same time on the same web coating/printing operation. If you switch between compliance options for any web coating/printing operation or group of operations, you must document this switch as required by § 63.4312(c), and you must report it in the next semiannual compliance report required in § 63.4311.

(1) *Compliant material option.* Demonstrate that the organic HAP content, as purchased, of each coating and printing material applied in the web coating/printing operation(s) is less than or equal to the applicable emission limit in Table 1 to this subpart, and that each thinning and cleaning material as purchased contains no organic HAP (as defined in § 63.4371). You must meet all the requirements of §§ 63.4320, 63.4321, and 63.4322 to demonstrate compliance with the applicable emission limit using this option.

(2) *Emission rate without add-on controls option.* Demonstrate that, based on the regulated materials applied in the web coating/printing operation(s), the organic HAP emission rate for the web coating/printing operation(s) is less than or equal to the applicable emission limit in Table 1 to this subpart, calculated as a rolling 12-month average emission rate. You must meet all the requirements of §§ 63.4330, 63.4331, and 63.4332 to demonstrate compliance with the applicable emission limit using this option.

(3) *Emission rate with add-on controls option.* Demonstrate that, based on the regulated materials applied in the web coating/printing operation(s) and the organic HAP emissions reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate for the web coating/printing operation(s) is less than or equal to the applicable emission limit in Table 1 to this subpart, calculated as a

rolling 12-month average emission rate. If you use this compliance option, you must also demonstrate that all capture systems and control devices for the web coating/printing operation(s) meet the operating limits required in § 63.4292, except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4341(e)(5), and that you meet the work practice standards required in § 63.4293. You must meet all the requirements of §§ 63.4340 through 63.4342 and 63.4360 through 63.4364 to demonstrate compliance with the emission limits, operating limits, and work practice standards using this option.

(4) *Organic HAP overall control efficiency option.* Demonstrate that, based on the organic HAP emission capture and add-on control efficiencies achieved, the organic HAP overall control efficiency is greater than or equal to the applicable organic HAP overall control efficiency limit in Table 1 to this subpart. If you use this compliance option, you must also demonstrate that all capture systems and control devices for the web coating/printing operation(s) meet the operating limits required in § 63.4292, except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4351(d)(5), and that you meet the work practice standards required in § 63.4293. You must meet all the requirements of §§ 63.4350 through 63.4352 and 63.4360 through 63.4364 to demonstrate compliance with the applicable emission limits, operating limits, and work practice standards using this option.

(5) *Oxidizer outlet organic HAP concentration limit.* If you use an oxidizer to control organic HAP emissions, demonstrate that the oxidizer is operated such that the outlet organic HAP concentration is no greater than 20 parts per million by volume (ppmv) on a dry basis, and that the efficiency of the capture system is 100 percent. If you use this compliance option, you must also demonstrate that all capture systems and oxidizers for the web coating/printing operation(s) meet the operating limits required in § 63.4292, and that you meet the work practice standards required in § 63.4293. You must meet all the requirements of §§ 63.4350 through 63.4352 and 63.4360 through 63.4364 to demonstrate compliance with the applicable emission limits, operating limits, and work practice standards using this option.

(b) *Slashing.* You must use the compliant material option to demonstrate that the mass fraction of organic HAP in each slashing material

as purchased for the slashing operation(s) is less than or equal to the applicable emission limit in Table 1 to this subpart. You must meet all the requirements of §§ 63.4320, 63.4321, and 63.4322 to demonstrate compliance with the applicable emission limit.

(c) *Dyeing and Finishing.* You may apply any one of the compliance options in paragraphs (c)(1) through (3) of this section to an individual dyeing/finishing operation, or to multiple dyeing/finishing operations in the affected source as a group, or to the entire affected source in the dyeing and finishing subcategory. You may use different compliance options for different dyeing/finishing operations or at different times on the same dyeing/finishing operation. However, you may not use different compliance options at the same time on the same dyeing/finishing operation. If you switch between compliance options for any dyeing/finishing operation or group of operations, you must document this switch as required by § 63.4312(c), and you must report it in the next semiannual compliance report required in § 63.4311. If you choose to apply the compliance option in paragraph (c)(4) to your dyeing/finishing operations, it must be applied to the entire affected source in the dyeing and finishing subcategory. You may not apply any of the compliance options in paragraphs (c)(1) through (3) of this section to any dyeing/finishing operation in the affected source if you use the equivalent emission rate limit in paragraph (c)(4) for your dyeing/finishing affected source.

(1) *Compliant material option.* Demonstrate that the mass fraction of organic HAP, as purchased, of each dyeing and finishing material applied in the dyeing/finishing operation(s) is less than or equal to the applicable emission limit in Table 1 to this subpart. You must meet all the requirements of §§ 63.4320, 63.4321, and 63.4322 to demonstrate compliance with the applicable emission limit using this option.

(2) *Emission rate without add-on controls option.* Demonstrate that, based on the dyeing and finishing materials applied in the dyeing/finishing operation(s), the organic HAP emission rate for the dyeing operation(s), the organic HAP emission rate for the finishing operation(s) or the combined organic HAP emission rate for dyeing and finishing is less than or equal to the applicable emission limit(s) in Table 1 to this subpart, calculated as a rolling 12-month average emission rate. You must meet all the requirements of §§ 63.4330, 63.4331, and 63.4332 to

demonstrate compliance with the applicable emission limit(s) using this option.

(3) *Emission rate with add-on controls option.* Demonstrate that, based on the dyeing and finishing materials applied in the dyeing/finishing operation(s) and the organic HAP emissions reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate for the dyeing/finishing operation(s) is less than or equal to the applicable emission limit in Table 1 to this subpart, calculated as a rolling 12-month average emission rate. If you use this compliance option, you must also demonstrate that all capture systems and control devices for the dyeing/finishing operation(s) meet the operating limits required in § 63.4292, except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4341(f)(5), and that you meet the work practice standards required in § 63.4293. You must meet all the requirements of §§ 63.4340 through 63.4342 and 63.4360 through 63.4364 to demonstrate compliance with the emission limits, operating limits, and work practice standards using this option.

(4) *Equivalent emission rate option.* Demonstrate that the dyeing and finishing affected source meets all the requirements of paragraphs (4)(i) through (iv) of this paragraph.

(i) The fraction of organic HAP applied in your dyeing/finishing affected source that is discharged to the wastewater is at least 90 percent, determined according to § 63.4331(d).

(ii) The wastewater is discharged to a POTW or onsite secondary wastewater treatment.

(iii) The total organic HAP emissions from your dyeing/finishing affected source are less than 10 tons per year, as calculated in Equation 4 of § 63.4331.

(iv) You must meet the applicable requirements of § 63.4330 and maintain records in accordance with § 63.4312(c)(2)(iv) to demonstrate compliance with the equivalent emission rate option.

#### **§ 63.4292 What operating limits must I meet?**

(a) For any web coating/printing operation, slashing operation, or dyeing/finishing operation on which you use the compliant material option; web coating/printing operation or dyeing/finishing operation on which you use the emission rate without add-on controls option; or dyeing/finishing affected source on which you use the equivalent emission rate limit option,

you are not required to meet any operating limits.

(b) For any controlled web coating/printing operation or dyeing/finishing operation on which you use the emission rate with add-on controls option, or controlled web coating/printing operation on which you use the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option, except those web coating/printing operations for which you use a solvent recovery system and conduct a liquid-liquid material balance according to § 63.4341(e)(5) and those dyeing/finishing operations for which you use a solvent recovery system and conduct a liquid-liquid material balance according to § 63.4341(f)(5), you must meet the operating limits specified in Table 2 of this subpart. These operating limits apply to the emission capture and control systems on the web coating/printing operation(s) and dyeing/finishing operations for which you use this option, and you must establish the operating limits during the performance test according to the procedures in § 63.4363. You must meet the operating limits at all times after you establish them.

(c) If you use an add-on control device other than those listed in Table 2 of this subpart, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under § 63.8(f).

#### **§ 63.4293 What work practice standards must I meet?**

(a) For any slashing operation, you are not required to meet any work practice standards. For any web coating/printing operation(s) or dyeing/finishing operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any work practice standards. For any dyeing/finishing affected source on which you use the equivalent emission rate option, you are not required to meet any work practice standards.

(b) If you use either the emission rate with add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option for a web coating/printing operation; or you use the emission rate with add-on controls option for a dyeing/finishing operation; you must develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of regulated materials used in, and waste materials generated by, the coating/printing or

dyeing/finishing operations for which you use this option; or you must meet an alternative standard as provided in paragraph (c) of this section. The plan must specify practices and procedures to ensure that, at a minimum, the elements specified in paragraphs (b)(1) through (5) of this section are implemented.

(1) All organic-HAP-containing regulated materials and waste materials must be stored in closed containers.

(2) Spills of organic-HAP-containing regulated materials, and waste materials must be minimized.

(3) Organic-HAP-containing regulated materials and waste materials must be conveyed from one location to another in closed containers or pipes.

(4) Mixing vessels which contain organic-HAP-containing regulated materials must be closed except when adding to, removing, or mixing the contents.

(5) Emissions of organic HAP must be minimized during cleaning of web coating/printing or dyeing/finishing storage, mixing, and conveying equipment.

(c) As provided in § 63.6(g), you may request approval from the Administrator to use an alternative to the work practice standards in this section.

#### General Compliance Requirements

##### § 63.4300 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations in this subpart as specified in paragraphs (a)(1) through (4) of this section.

(1) Any web coating/printing, slashing, or dyeing/finishing operation(s) for which you use the compliant material option, as specified in § 63.4291(a)(1), (b), or (c)(1) must be in compliance with the applicable emission limit in Table 1 to this subpart at all times.

(2) Any web coating/printing or dyeing/finishing operation(s) for which you use the emission rate without add-on controls option, as specified in § 63.4291(a)(2) or (c)(2), must be in compliance with the applicable emission limit in Table 1 to this subpart for all compliance periods.

(3) Any web coating/printing or dyeing/finishing operation(s) for which you use the emission rate with add-on controls option, as specified in § 63.4291(a)(3) or (c)(3), and any web coating/printing operation(s) for which you use either the organic HAP overall control efficiency option, as specified in § 63.4291(a)(4), or the oxidizer outlet organic HAP concentration option, as specified in § 63.4291(a)(5), must be in

compliance with the emission limitations as specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) The web coating/printing or dyeing/finishing operation(s) must be in compliance with the applicable emission limit in Table 1 to this subpart or comply with the startup, shutdown, and malfunction plan at all times.

(ii) Each controlled web coating/printing or dyeing/finishing operation must be in compliance with the operating limits for emission capture systems and add-on control devices required by § 63.4292 for all averaging time periods except for solvent recovery systems for which you conduct liquid-liquid material balances according to §§ 63.4341(e)(5) or (f)(5) or 63.4351(d)(5).

(iii) Each controlled web coating/printing or dyeing/finishing operation must be in compliance with the work practice standards in § 63.4293 at all times.

(4) Any dyeing/finishing affected source for which you use the equivalent emission rate option, as specified in § 63.4291(c)(4), must operate within the operating scenarios, as defined in § 63.4371, for which you determined the fraction of organic HAP applied in your dyeing/finishing affected source that is discharged to wastewater according to § 63.4331(d) at all times.

(b) 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).

(c) If your affected source uses an emission capture system and add-on control device, you must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in § 63.6(e)(3). The plan must address the startup, shutdown, and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The plan must also address any web coating/printing or dyeing/finishing operation equipment such as conveyors that move the substrate among enclosures that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions.

##### § 63.4301 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

#### Notifications, Reports, and Records

##### § 63.4310 What notifications must I submit?

(a) You must submit the notifications in §§ 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) that apply to you by the dates specified in those sections, except as provided in paragraphs (b) and (c) of this section.

(b) *Initial Notification.* You must submit the Initial Notification required by § 63.9(b) for a new or reconstructed affected source no later than 120 days after initial startup or 120 days after May 29, 2003, whichever is later. For an existing affected source, you must submit the Initial Notification no later than 1 year after May 29, 2003.

(c) *Notification of Compliance Status.* You must submit the Notification of Compliance Status required by § 63.9(h) no later than 30 calendar days following the end of the initial compliance period described in §§ 63.4320, 63.4330, 63.4340, or 63.4350 that applies to your affected source. The Notification of Compliance Status must contain the information specified in paragraphs (c)(1) through (9) of this section and in § 63.9(h).

(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. The reporting period is the initial compliance period described in §§ 63.4320, 63.4330, 63.4340, or 63.4350 that applies to your affected source.

(4) Identification of the compliance option or options specified in § 63.4291 that you used during the initial compliance period on each web coating/printing operation in each web coating/printing affected source, on each slashing operation in each slashing affected source, and on each dyeing/finishing operation in each dyeing/finishing affected source.

(5) Statement of whether or not the affected source achieved the emission limitations for the initial compliance period.

(6) If you had a deviation, include the information in paragraphs (c)(6)(i) and (ii) of this section.

(i) A description, and statement of the cause of, the deviation.

(ii) If you failed to meet the applicable emission limit in Table 1 to this subpart, include all the calculations you used to determine the kilogram (kg) organic HAP emitted per kg of solids applied in coating and printing material or the weight percent organic HAP compounds

in slashing, dyeing or finishing material to demonstrate your failure to meet the applicable emission limit. You do not need to submit information provided by the materials suppliers or manufacturers or test reports.

(7) For each of the data items listed in paragraphs (c)(7)(i) through (iii) of this section that is required by the compliance option(s) you used to demonstrate compliance with the emission limit, include an example of how you determined the value, including calculations and supporting data. Supporting data can include a copy of the information provided by the supplier or manufacturer of the example regulated material or a summary of the results of testing conducted according to § 63.4321(e)(1) or (2). You do not need to submit copies of any test reports.

(i) Mass fraction of organic HAP and mass fraction of solids for one coating or printing formulation including thinning materials, mass fraction of organic HAP for one cleaning material and mass fraction of organic HAP for all of the regulated materials as purchased used in one slashing operation or dyeing/ finishing operation.

(ii) Mass of coating or printing formulation used in web coating/ printing operation or of dyeing and finishing materials used in the dyeing/ finishing operation during the compliance period.

(iii) The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 or 4 of § 63.4331.

(iv) The mass of organic HAP in the dyeing and finishing materials applied during the compliance period and the mass of organic HAP in wastewater discharged to a POTW or receiving onsite secondary treatment for which you are claiming an allowance in Equation 4 of § 63.4331.

(8) The calculation of kg organic HAP per kg of coating and printing solids applied and of kg organic HAP per kg of dyeing and finishing material as purchased for the compliance option(s) you use, as specified in paragraphs (c)(8)(i) through (vii) of this section.

(i) For the compliant material option as specified in § 63.4291(a)(1) for web coating/printing operations, provide an example calculation of the organic HAP content for one coating and one printing material, as appropriate, using Equation 1 of § 63.4321.

(ii) For the emission rate without add-on controls option as specified in § 63.4291(a)(2) for web coating/printing operations, provide the calculation of the total mass of organic HAP emissions; the calculation of the total

mass of coating and printing solids applied; and the calculation of the organic HAP emission rate, using Equations 1, 2, and 3, respectively, of § 63.4331.

(iii) For the emission rate without add-on controls option as specified in § 63.4291(c)(2) for dyeing/finishing operations, provide the calculation of the total mass of organic HAP emissions; the calculation of the total mass of dyeing and finishing materials applied; and the calculation of the organic HAP emission rate, using Equations 4, 5, and 6, respectively, of § 63.4331.

(iv) For the emission rate with add-on controls option as specified in § 63.4291(a)(3) for web coating/printing operations, provide the calculation of the total mass of organic HAP emissions before add-on controls using Equation 1 of § 63.4331, and the calculation of the organic HAP emission rate using Equation 4 of § 63.4341.

(v) For the emission rate with add-on controls option as specified in § 63.4291(c)(3) for dyeing/finishing operations, provide the calculation of the mass of organic HAP emissions before add-on controls using Equation 4 of § 63.4331, and the calculation of the organic HAP emission rate using Equation 8 of § 63.4341.

(vi) For the organic HAP overall control efficiency option as specified in § 63.4291(a)(4), provide the calculation of the total mass of organic HAP emissions before add-on controls using Equation 1 of § 63.4331 and the calculation of the organic HAP overall control efficiency using Equation 1 of § 63.4351.

(vii) For the equivalent emission rate option as specified in § 63.4291(c)(4), provide the calculation of the fraction of organic HAP applied in affected processes that is discharged to wastewater according to § 63.4331(d), the calculation of the total organic HAP emissions from your dyeing/finishing affected source using Equation 4 of § 63.4331, and documentation that organic HAP containing wastewater is either discharged to a POTW or treated onsite in a treatment system that includes at least secondary treatment.

(9) For the emission rate with add-on controls option as specified in § 63.4291(a)(3) and (c)(3), the organic HAP overall control efficiency option as specified in § 63.4291(a)(4), and the oxidizer outlet organic HAP concentration option as specified in § 63.4291(a)(5), for each controlled web coating/printing or dyeing/finishing operation using an emission capture system and add-on control device other than a solvent recovery system for

which you conduct liquid-liquid material balances according to §§ 63.4341(e)(5) or (f)(5) or 63.4351(d)(5), you must include the information specified in paragraphs (c)(9)(i) through (iv) of this section.

(i) For each emission capture system, a summary of the data and copies of the calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency. If you are demonstrating compliance with the oxidizer outlet organic HAP concentration option, the emission capture system must be a PTE. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted, and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you must also include the statistical calculations to show you meet the DQO or LCL criteria in appendix A to subpart KK of this part. You do not need to submit complete test reports.

(ii) A summary of the results of each add-on control device performance test. You do not need to submit complete test reports.

(iii) A list of each emission capture system's and add-on control device's operating limits and a summary of the data used to calculate those limits.

(iv) A statement of whether or not you developed and implemented the work practice plan required by § 63.4293 and the startup, shutdown and malfunction plan required by § 63.4300.

#### § 63.4311 What reports must I submit?

(a) *Semiannual compliance reports.* You must submit semiannual compliance reports for each affected source according to the requirements of paragraphs (a)(1) through (8) of this section. The semiannual compliance reporting requirements of this section may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in paragraph (a)(2) of this section.

(1) *Dates.* Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must prepare and submit each semiannual compliance report according to the dates specified in paragraphs (a)(1)(i) through (iv) of this section.

(i) The first semiannual compliance report must cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in §§ 63.4320, 63.4330,

63.4340, or 63.4350 that applies to your affected source and ends on June 30 or December 31, whichever date is the first date at least 6 months after the end of the initial compliance period.

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

(iii) Each semiannual 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.

(iv) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 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 date specified in paragraph (a)(1)(iii) of this section.

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

(3) *General requirements.* The semiannual compliance report must contain the information specified in paragraphs (a)(3)(i) through (v) of this section, and the information specified in paragraphs (a)(4) through (8) and (c)(1) of this section that is applicable to your affected source. If your affected source is a slashing operation(s), you are only required to report the information in paragraphs (a)(3)(i) through (iii) of this section and the information in

paragraph (a)(4) or (a)(5) of this section, as applicable.

(i) Company name and address.

(ii) 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.

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31.

(iv) Identification of the compliance option or options specified in § 63.4291 that you used on each web coating/printing and dyeing/finishing operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning and ending dates you used each option.

(v) If you used the emission rate without add-on controls, the emission rate with add-on controls, or the organic HAP overall control efficiency compliance option for web coating/printing operations (§ 63.4291(a)(2), (3), or (4)), or the emission rate without add-on controls or the emission rate with add-on controls compliance option for dyeing/finishing operations (§ 63.4291(c)(2) or (c)(3)), the calculation results for each compliance period ending each month during the 6-month reporting period.

(4) *No deviations.* If there were no deviations from the emission limitations in Table 1 to this subpart and §§ 63.4292, and 63.4293 that apply to you, the semiannual compliance report must include a statement that there were no deviations from the emission limitations during the reporting period. If you use the emission rate with add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option and there were no periods during which the continuous parameter monitoring systems (CPMS) were out-of-control as specified in § 63.8(c)(7), the semiannual compliance report must include a statement that there were no periods during which the CPMS were out-of-control during the reporting period.

(5) *Deviations: compliant material option.* If you use the compliant material option, and there was a deviation from the applicable organic HAP content requirements in Table 1 to this subpart, the semiannual compliance report must contain the information in paragraphs (a)(5)(i) through (iv) of this section.

(i) Identification of each coating, printing, slashing, dyeing or finishing material applied that deviated from the

emission limit and each thinning or cleaning material applied in web coating/printing operations that contained organic HAP, and the dates and time periods each was applied.

(ii) The calculation of the organic HAP content using Equation 1 of § 63.4321 for each coating or printing material identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (e.g., information provided by material suppliers or manufacturers, or test reports).

(iii) The determination of mass fraction of organic HAP for each regulated material identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (e.g., information provided by material suppliers or manufacturers, or test reports).

(iv) A statement of the cause of each deviation.

(6) *Deviations: emission rate without add-on controls option.* If you use the emission rate without add-on controls option and there was a deviation from the applicable emission limit in Table 1 to this subpart, the semiannual compliance report must contain the information in paragraphs (a)(6)(i) through (iii) of this section.

(i) The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the applicable emission limit in Table 1 to this subpart.

(ii) The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. You must submit the calculations for Equations 1, 1A and 1B, 2, and 3 in § 63.4331 for web coating/printing operations; and for Equations 4, 4A, 5, and 6 in § 63.4331 for dyeing/finishing operations; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to § 63.4331(a)(4)(iii) or (b)(3)(ii); and, for dyeing/finishing operations, if applicable, the mass of organic HAP in wastewater streams calculation for Equation 7 in § 63.4331. You do not need to submit background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

(iii) A statement of the cause of each deviation.

(7) *Deviations: add-on controls options.* If you use one of the add-on controls options in § 63.4291(a) or (c) and there was a deviation from an emission limitation (including any periods when emissions bypassed the

add-on control device and were diverted to the atmosphere), the semiannual compliance report must contain the information in paragraphs (a)(7)(i) through (xv) of this section. This includes periods of startup, shutdown, and malfunction during which deviations occurred.

(i) The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the applicable emission limit in Table 1 to this subpart.

(ii) If you use the emission rate option, the calculations used to determine the organic HAP emission rate for each compliance period in which a deviation occurred. You must submit the calculations that apply to you, including Equations 1, 1A, 1B, and 2 of § 63.4331 and Equations 1, 1A, 1B, 1C, 2, 3, 3A and 3B and 4 of § 63.4341 for web coating/printing operations; and Equations 4, 4A, 5, and 7 of § 63.4331 and Equations 5, 5A, 5B, 6, 7, and 8 of § 63.4341 for dyeing/finishing operations. You do not need to submit the background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

(iii) If you use the organic HAP overall control efficiency option, the calculations used to determine the organic HAP overall control efficiency for each compliance period in which a deviation occurred. You must submit the calculations that apply to you, including Equations 1, 1A, and 1B of § 63.4331; Equations 1, 1A, 1B, 1C, 2, 3, 3A, and 3B of § 63.4341; and Equation 1 of § 63.4351. You do not need to submit the background data supporting these calculations (e.g., test reports).

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

(v) A brief description of the CPMS.

(vi) The date of the latest CPMS certification or audit.

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

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

(ix) The date and time period of each deviation from an operating limit in Table 2 to this subpart, date and time period of any bypass of the add-on control device, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(x) A summary of the total duration of each deviation from an operating limit in Table 2 to this subpart and each bypass of the add-on control device during the semiannual reporting period

and the total duration as a percent of the total source operating time during that semiannual reporting period.

(xi) A breakdown of the total duration of the deviations from the operating limits in Table 2 to this subpart and bypasses of the add-on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

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

(xiii) A description of any changes in the CPMS, web coating/printing or dyeing/finishing operation, emission capture system, or add-on control device since the last semiannual reporting period.

(xiv) For each deviation from the work practice standards, a description of the deviation, the date and time period duration of the deviation, and the actions you took to correct the deviation.

(xv) A statement of the cause of each deviation.

(8) *Deviations: Equivalent Emission Rate Option.* If you use the equivalent emission rate option, and there was a deviation from the operating scenarios, as defined in § 63.4371, used to demonstrate initial compliance, the semiannual compliance report must contain the information in paragraphs (a)(i) through (iv) of this section.

(i) The beginning and ending dates of each compliance period during which the deviation occurred.

(ii) If the deviation consisted of failure to treat the organic HAP containing wastewater by a biological treatment process, an explanation of the deviation, the duration of the deviation, and the determination of the mass of organic HAP that was discharged in the wastewater that was not treated by a biological treatment process.

(iii) The determination of the fraction of organic HAP applied in your dyeing/finishing affected source that is discharged to the wastewater according to § 63.4331(d).

(iv) The calculation of the total organic HAP emissions from your dyeing/finishing affected source using Equation 4 of § 63.4331.

(b) *Performance test reports.* If you use one of the add-on control options in § 63.4291(a) or (c), you must submit reports of performance test results for emission capture systems and add-on control devices no later than 60 days

after completing the tests as specified in § 63.10(d)(2).

(c) *Startup, shutdown, malfunction reports.* If you use one of the add-on control options in § 63.4291(a) or (c) and you have a startup, shutdown, or malfunction during the semiannual reporting period, you must submit the reports specified in paragraphs (c)(1) and (2) of this section.

(1) If your actions were consistent with your startup, shutdown, and malfunction plan, you must include the information specified in § 63.10(d) in the semiannual compliance report.

(2) If your actions were not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report as described in paragraphs (c)(2)(i) and (ii) of this section as required by paragraph (a) of this section.

(i) You must describe the actions taken during the event in a report delivered by facsimile, telephone, or other means to the Administrator within 2 working days after starting actions that are inconsistent with the plan.

(ii) You must submit a letter to the Administrator within 7 working days after the end of the event, unless you have made alternative arrangements with the Administrator as specified in § 63.10(d)(5)(ii). The letter must contain the information specified in § 63.10(d)(5)(ii).

#### **§ 63.4312 What records must I keep?**

You must collect and keep a record of the data and information specified in this section. Failure to collect and keep these records is a deviation from the applicable standard.

(a) A copy of each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report.

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data or test data used to determine the mass fraction of organic HAP for coating, printing, slashing, dyeing, finishing, thinning, and cleaning materials; and the mass fraction of solids for coating and printing materials. If you conducted testing to determine mass fraction of organic HAP of coating materials or the mass fraction of solids of coating materials, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or

supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the records specified in paragraph (c)(1) of this section for web coating/printing operations and the records specified in paragraph (c)(2) of this section for dyeing/finishing operations.

(1) A record of the web coating/printing operations on which you used each compliance option and the time periods (beginning and ending dates) you used each option. For each month, a record of all required calculations for the compliance option(s) you used, as specified in paragraphs (c)(1)(i) through (iv) of this section.

(i) For the compliant material option, a record of the calculation of the organic HAP content, as purchased, for each coating and printing material applied, using Equation 1 of § 63.4321.

(ii) For the emission rate without add-on controls option, a record of the calculation of the total mass of organic HAP emissions for the coating, printing, thinning and cleaning materials applied each compliance period using Equations 1, 1A, and 1B of § 63.4331 and, if applicable, the calculation used to determine the mass of organic HAP in waste materials according to § 63.4331(a)(4)(iii); the calculation of the total mass of the solids contained in all coating and printing materials applied each compliance period using Equation 2 of § 63.4331; and the calculation of the organic HAP emission rate for each compliance period using Equation 3 of § 63.4331.

(iii) For the emission rate with add-on controls option, a record of the calculation of the total mass of organic HAP emissions before add-on controls for the coating, printing, thinning and cleaning materials applied each compliance period using Equations 1, 1A, and 1B of § 63.4331 and, if applicable, the calculation used to determine the mass of organic HAP in waste materials according to § 63.4331(a)(4)(iii); the calculation of the total mass of the solids contained in all coating and printing materials applied each compliance period using Equation 2 of § 63.4331; the calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices using Equations 1, 1A, 1B, and 1C of § 63.4341 and Equations 2, 3, 3A, and 3B of § 63.4341, as applicable; and the calculation of the organic HAP emission rate for each compliance period using Equation 4 of § 63.4341.

(iv) For the organic HAP overall control efficiency option or the oxidizer

outlet organic HAP concentration option, the records specified in paragraph (j) of this section.

(2) A record of the dyeing/finishing operations on which you used each compliance option and the time periods (beginning and ending dates) you used each option. For each month, a record of all required calculations for the compliance option(s) you used, as specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) For the compliant material option, a purchase record of the mass fraction of organic HAP for each dyeing, and finishing material applied, according to § 63.4321(e)(1)(iv).

(ii) For the emission rate without add-on controls option, the calculation for the total mass of organic HAP emissions for the dyeing and finishing materials applied each compliance period using Equations 4 and 4A of § 63.4331 and, if applicable, the calculations used to determine the mass of organic HAP in waste materials according to § 63.4331(b)(3)(ii) and the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge according to § 63.4331(b)(3)(iii); the calculation of the total mass of dyeing and finishing materials applied each compliance period using Equation 5 of § 63.4331; and the calculation of the organic HAP emission rate for each compliance period using Equation 6 of § 63.4331.

(iii) For the emission rate with add-on controls option, a record of the calculation of the total mass of organic HAP emissions before add-on controls for the dyeing and finishing materials applied each compliance period using Equations 4 and 4A of § 63.4331 and, if applicable, the calculation used to determine the mass of organic HAP in waste materials according to § 63.4331(b)(3)(ii) and the determination of the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge according to § 63.4331(b)(3)(iii); the calculation of the total mass of dyeing and finishing materials applied each compliance period using Equation 5 of § 63.4331; the calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices using Equations 5, 5A, and 5B of § 63.4341 and Equations 6, 7, and 7A of § 63.4341, as applicable; and the calculation of the organic HAP emission rate for each compliance period using Equation 8 of § 63.4341.

(iv) For the equivalent emission rate option, a record that your dyeing/finishing affected source operated within the operating scenarios used to demonstrate initial compliance,

documentation that affected wastewater was either discharged to a POTW or to onsite secondary treatment, and the calculation of the total organic HAP emissions from your dyeing/finishing affected source for each compliance period using Equation 4 of § 63.4331.

(d) A record of the name and mass of each regulated material applied in the web coating and printing subcategory and the dyeing and finishing subcategory during each compliance period. If you are using the compliant material option for all regulated materials at the source, you may maintain purchase records for each material used rather than a record of the mass used.

(e) A record of the mass fraction of organic HAP for each regulated material applied during each compliance period.

(f) A record of the mass fraction of coating and printing solids for each coating and printing material applied during each compliance period.

(g) If you use an allowance in Equation 1 or 4 of § 63.4331 for organic HAP contained in waste materials sent to, or designated for shipment to, a treatment, storage, and disposal facility (TSDF) according to § 63.4331(a)(4)(iii) or (b)(3)(ii), you must keep records of the information specified in paragraphs (g)(1) through (3) of this section.

(1) The name and address of each TSDF to which you sent waste materials for which you used an allowance in Equation 1 or 4 of § 63.4331, a statement of which subparts under 40 CFR parts 262, 264, 265, and 266 apply to the facility, and the date of each shipment.

(2) Identification of the web coating/printing or dyeing/finishing operations producing waste materials included in each shipment and the compliance period(s) in which you used the allowance for these materials in Equation 1 or 4, respectively, of § 63.4331.

(3) The methodology used in accordance with § 63.4331(a)(3)(iii) or (b)(4)(ii) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each compliance period; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

(h) If you use an allowance in Equation 4 of § 63.4331 for organic HAP contained in wastewater discharged to a POTW or treated onsite prior to

discharge according to § 63.4331(c), you must keep records of the information specified in paragraphs (h)(1) and (2) of this section.

(1) Documentation that the wastewater was either discharged to a POTW or onsite secondary wastewater treatment.

(2) Calculation of the allowance, WW, using the fraction of organic HAP applied in affected processes that is discharged to the wastewater determined from the most recent performance test and the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, calculated in Equation 4 of § 63.4331.

(i) You must keep records of the date, time, and duration of each deviation.

(j) If you use the emission rate with add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option, you must keep the records specified in paragraphs (j)(1) through (8) of this section.

(1) For each deviation, a record of whether the deviation occurred during a period of startup, shutdown, or malfunction.

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) The records required to show continuous compliance with each operating limit specified in Table 2 to this subpart that applies to you.

(4) For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and has a capture efficiency of 100 percent, as specified in § 63.4361(a).

(5) For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in §§ 63.4360 and 63.4361(b) through (e) including the records specified in paragraphs (j)(5)(i) through (iii) of this section that apply to you.

(i) *Records for a liquid-to-fugitive protocol using a temporary total enclosure or building enclosure.* Records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or F of appendix M to 40 CFR part 51 for each regulated material applied in the web coating/printing or dyeing/finishing operation, and the total TVH for all materials applied during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building

enclosure during each capture efficiency test run, as measured by Method 204D or E of appendix M to 40 CFR part 51, including a copy of the test report.

Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(ii) *Records for a gas-to-gas protocol using a temporary total enclosure or a building enclosure.* Records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or C of appendix M to 40 CFR part 51 at the inlet to the add-on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(iii) *Records for an alternative protocol.* Records needed to document a capture efficiency determination using an alternative method or protocol as specified in § 63.4361(e), if applicable.

(6) The records specified in paragraphs (j)(6)(i) and (ii) of this section for each add-on control device organic HAP destruction or removal efficiency determination or oxidizer outlet organic HAP concentration determination as specified in § 63.4362.

(i) Records of each add-on control device performance test conducted according to §§ 63.4360 and 63.4362.

(ii) Records of the web coating/printing or dyeing/finishing operation conditions during the add-on control device performance test showing that the performance test was conducted under representative operating conditions.

(7) Records of the data and calculations you used to establish the emission capture and add-on control device operating limits as specified in § 63.4363 and to document compliance with the operating limits as specified in Table 2 to this subpart.

(8) A record of the work practice plan required by § 63.4293 and documentation that you are implementing the plan on a continuous basis.

#### **§ 63.4313 In what form and for how long must I keep my records?**

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(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 on site 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 may keep the records off site for the remaining 3 years.

#### **Compliance Requirements for the Compliant Material Option**

##### **§ 63.4320 By what date must I conduct the initial compliance demonstration?**

You must complete the compliance demonstration for the initial compliance period according to the requirements in § 63.4321. The initial compliance period begins on the applicable compliance date specified in § 63.4283 and ends on the last day of the first full month after the compliance date. The initial compliance demonstration includes the calculations according to § 63.4321 and supporting documentation showing that, during the initial compliance period, the organic HAP content of each coating and printing material you applied and the mass fraction of organic HAP in each slashing, dyeing, and finishing material you applied did not exceed the applicable limit in Table 1 to this subpart, and documentation that in web coating/printing operations you applied only thinners and cleaners that contained no organic HAP as defined in § 63.4371.

##### **§ 63.4321 How do I demonstrate initial compliance with the emission limitations?**

(a) You may use the compliant material option for any individual web coating/printing operation, for any group of web coating/printing operations in the affected source, or for all the web coating/printing operations in the affected source. You must use either the emission rate without add-on controls option, the emission rate with add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option for any web coating/printing operation(s) in the affected source for which you do not use this option. For a web coating/printing affected source to demonstrate initial compliance using the compliant

material option, the web coating/printing operation or group of web coating/printing operations must apply no coating or printing material with an organic HAP content that exceeds the applicable emission limit in Table 1 to this subpart and must apply only thinning or cleaning material that contains no organic HAP, as defined in § 63.4371.

(b) You must use the compliant material option for each slashing affected source, as required in Table 1 to this subpart. For a slashing affected source to demonstrate initial compliance using the compliant material option, the slashing operation or group of slashing operations must apply only slashing material with no organic HAP as defined in § 63.4371.

(c) You may use the compliant material option for any individual dyeing/finishing operation, for any group of dyeing/finishing operations in the affected source, or for all the dyeing/finishing operations in the affected source. You must use either the emission rate without add-on controls option or the emission rate with add-on controls option for any dyeing/finishing operations in the affected source for which you do not use this option. You may not use the compliant material option for any dyeing/finishing operation in a dyeing/finishing affected source for which you use the equivalent emission rate option. For a dyeing/finishing affected source to demonstrate initial compliance using the compliant material option, the dyeing/finishing operation or group of dyeing/finishing operations must apply no dyeing or finishing material with a mass fraction of organic HAP that exceeds the applicable emission limit in Table 1 to this subpart.

(d) Any web coating/printing operation, slashing operation, or dyeing/finishing operation for which you use the compliant material option is not required to meet the operating limits or work practice standards required in §§ 63.4292 and 63.4293, respectively.

(e) To demonstrate initial compliance with the emission limitations using the compliant material option, you must meet all the requirements of this section for any web coating/printing operation, slashing operation, or dyeing/finishing operation using this option. Use the applicable procedures in this section on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the organic HAP content of regulated materials that are reclaimed onsite and reused in the web coating/printing operation, slashing operation,

or dyeing/finishing operation for which you use the compliant material option, provided these regulated materials in their condition as received were demonstrated to comply with the compliant material option.

(1) *Determine the mass fraction of organic HAP for each material.* You must determine the mass fraction of organic HAP for each regulated material applied during the compliance period by using one of the options in paragraphs (e)(1)(i) through (v) of this section. You must use the option in paragraph (e)(1)(iv) of this section for each printing, slashing, dyeing, or finishing material applied during the compliance period.

(i) *Method 311 (appendix A to 40 CFR part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in paragraphs (e)(1)(i)(A) and (B) of this section when performing a Method 311 test.

(A) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you don't have to count it. Express the mass fraction of each organic HAP you count as a value truncated to no more than four places after the decimal point (*e.g.*, 0.3791).

(B) Calculate the total mass fraction of organic HAP in the regulated material being tested by adding up the individual organic HAP mass fractions and truncating the result to no more than three places after the decimal point (*e.g.*, 0.763).

(ii) *Method 24 (appendix A to 40 CFR part 60).* You may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For a multi-component coating with reactive chemicals, you may use Method 24 on the coating as applied to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for the mass fraction of organic HAP determined from the sum of organic HAP in each component.

(iii) *Alternative method.* You may use an alternative test method for determining the mass fraction of organic HAP, mass fraction of solids, or fraction of organic HAP emitted from a reactive coating once the Administrator has approved it. You must follow the

procedure in § 63.7(f) to submit an alternative test method for approval.

(iv) *Information from the supplier or manufacturer of the material.* You may rely on information other than that generated by the test methods specified in paragraphs (e)(1)(i) through (iii) of this section, such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. If there is a disagreement between such information and results of a test conducted according to paragraphs (e)(1)(i) through (iii) of this section on coating, thinning, or cleaning material, then the test method results will take precedence. Information from the supplier or manufacturer of the printing, slashing, dyeing, or finishing material is sufficient for determining the mass fraction of organic HAP.

(v) *Solvent blends.* Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 4 or 5 to this subpart. If you use the tables, you must use the values in Table 4 for all solvent blends that match Table 4 entries, and you may only use Table 5 if the solvent blends in the materials you use do not match any of the solvent blends in Table 4 and you only know whether the blend is aliphatic or aromatic. However, if the results of a Method 311 test indicate higher values than those listed on Table 4 or 5 to this subpart, the Method 311 results will take precedence.

(2) *Determine the mass fraction of solids for each coating and printing material.* You must determine the mass fraction of solids (kg of solids per kg of coating or printing material) for each coating material applied during the compliance period by a test or by information provided by the supplier or the manufacturer of the material, as specified in paragraphs (e)(2)(i) through (iii) of this section. If test results obtained according to paragraph (e)(2)(i) or (ii) of this section for a coating material do not agree with the information obtained under paragraph (e)(2)(iii) of this section, the test results

will take precedence. To determine mass fraction of solids for each printing material applied during the compliance period, you should use information provided by the supplier or manufacturer of the material, as specified in paragraph (e)(2)(iii) of this section.

(i) *Method 24 (appendix A to 40 CFR part 60)*. You may use Method 24 for determining the mass fraction of solids of coating materials.

(ii) *Alternative method*. You may use an alternative test method for determining solids content of each coating material once the Administrator has approved it. You must follow the procedure in § 63.7(f) to submit an alternative test method for approval.

(iii) *Information from the supplier or manufacturer of the material*. You may obtain the mass fraction of solids for each coating and printing material from the supplier or manufacturer. If there is disagreement between such information and the test method results for a coating material, then the test method results will take precedence.

(3) *Calculate the organic HAP content of each coating or printing material*. Calculate the organic HAP content, kg organic HAP per kg of solids, of each coating and printing material applied during the compliance period, using Equation 1 of this section:

$$H_c = (W_c)/(W_f) \quad (\text{Eq. 1})$$

Where:

$H_c$  = Organic HAP content of the coating or printing material, kg organic HAP per kg solids in the coating or printing material.

$W_c$  = Mass fraction of organic HAP in the coating or printing material, kg organic HAP per kg material, determined according to paragraph (e)(1) of this section.

$W_f$  = Mass fraction of solids in coating or printing material, kg solids per kg of coating or printing material, determined according to paragraph (e)(2) of this section.

(4) *Compliance demonstration*. The calculated organic HAP content for each coating and printing material applied during the initial compliance period must be less than or equal to the applicable emission limit in Table 1 to this subpart, and each thinning and cleaning material applied during the initial compliance period must contain no organic HAP as defined in § 63.4371. Each slashing material applied during the initial compliance period must contain no organic HAP as defined in § 63.4371. The mass fraction of organic HAP for each dyeing and finishing material applied during the initial

compliance period, determined according to paragraph (e)(1)(iv) of this section, must be less than or equal to the applicable emission limit in Table 1 to this subpart. You must keep all records required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required in § 63.4310, you must:

(i) Identify any web coating/printing operation, slashing operation, and dyeing/finishing operation for which you used the compliant material option;

(ii) Submit a statement that the web coating/printing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you applied no coating and printing material for which the organic HAP content exceeds the applicable emission limit in Table 1 to this subpart, and you applied only thinning materials and cleaning materials that contained no organic HAP, as defined in § 63.4371;

(iii) Submit a statement that the slashing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you applied only slashing materials that contained no organic HAP, as defined in § 63.4371; and

(iv) Submit a statement that the dyeing/finishing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you applied no dyeing and finishing material for which the mass fraction of organic HAP exceeds the applicable emission limit in Table 1 to this subpart.

#### **§ 63.4322 How do I demonstrate continuous compliance with the emission limitations?**

(a) For each compliance period, to demonstrate continuous compliance, you must apply no coating or printing material for which the organic HAP content determined using Equation 1 of § 63.4321, exceeds the applicable emission limit in Table 1 to this subpart. For each compliance period, to demonstrate continuous compliance, you must apply only slashing material that contains no organic HAP as defined in § 63.4371. For each compliance period, to demonstrate continuous compliance, you must apply no dyeing or finishing material for which the mass fraction of organic HAP, determined according to the requirements of § 63.4321(e)(1)(iv), exceeds the applicable emission limit in Table 1 to this subpart. For each compliance period, you must apply only thinning or cleaning materials that contain no organic HAP (as defined in § 63.4371) in a coating/printing affected source. Each

month following the initial compliance period described in § 63.4320 is a compliance period.

(b) If you choose to comply with the emission limitations by using the compliant material option, the application of any regulated material that does not meet the criteria specified in paragraph (a) of this section is a deviation from the emission limitations that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(5).

(c) As part of each semiannual compliance report required by § 63.4311, you must identify any web coating/printing operation, slashing operation, or dyeing/finishing operation for which you used the compliant material option. If there were no deviations from the applicable emission limit in Table 1 to this subpart, submit a statement that, as appropriate, the web coating/printing operations were in compliance with the emission limitations during the reporting period because you applied no coating or printing material for which the organic HAP content exceeded the applicable emission limit in Table 1 to this subpart, and you applied only thinning and cleaning materials that contained no organic HAP (as defined in § 63.4371) in a web coating/printing affected source; the slashing operations were in compliance with the emission limitations during the reporting period because you applied only slashing materials with no organic HAP (as defined in § 63.4371) in a slashing affected source; and the dyeing/finishing operations were in compliance with the emission limitations during the reporting period because you applied no dyeing or finishing material for which the mass fraction of organic HAP exceeded the applicable emission limit in Table 1 to this subpart.

(d) You must maintain records as specified in §§ 63.4312 and 63.4313.

#### **Compliance Requirements for the Emission Rate Without Add-On Controls Option**

##### **§ 63.4330 By what date must I conduct the initial compliance demonstration?**

You must complete the compliance demonstration for the initial compliance period according to the requirements of § 63.4331. The initial compliance period begins on the applicable compliance date specified in § 63.4283 and ends on the last day of the 12th full month after the compliance date. The initial compliance demonstration includes the calculations according to § 63.4331 and supporting documentation showing that for web coating/printing operations, the organic HAP emission rate for the initial

compliance period was equal to or less than the applicable emission limit in Table 1 to this subpart and for dyeing/finishing operations, the mass fraction of organic HAP for the initial compliance period was less than or equal to the applicable emission limit in Table 1 to this subpart.

**§ 63.4331 How do I demonstrate initial compliance with the emission limitations?**

(a) For web coating/printing operations, you may use the emission rate without add-on controls option for any individual web coating/printing operation, for any group of web coating/printing operations in the affected source, or for all the web coating/printing operations as a group in the affected source. You must use either the compliant material option, the emission rate with add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option for any web coating/printing operation in the affected source for which you do not use this option. To demonstrate initial compliance using the emission rate without add-on controls option, the web coating/printing operation or group of web coating/printing operations must meet the applicable emission limit in Table 1 to this subpart but is not required to meet the operating limits or work practice standards in §§ 63.4292 and 63.4293, respectively. You must meet all the requirements of paragraphs (a)(1) through (7) of this section to demonstrate initial compliance with the applicable emission limit in Table 1 to this subpart for the web coating/printing operation(s). When calculating the organic HAP emission rate according to this section, do not include any coating, printing, thinning, or cleaning materials applied on web coating/printing operations for which you use the compliant material option, the emission rate with add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option. Use the procedures in this section on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration.

(1) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each coating, printing, thinning, and cleaning material applied during the compliance period according to the requirements in § 63.4321(e)(1).

(2) *Determine the mass fraction of solids for each material.* Determine the mass fraction of solids (kg of solids per kg of coating or printing material) for

each coating and printing material applied during the compliance period according to the requirements in § 63.4321(e)(2).

(3) *Determine the mass of each material.* Determine the mass (kg) of each coating, printing, thinning, or cleaning material applied during the compliance period by measurement or usage records.

(4) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all coating, printing, thinning, and cleaning materials applied during the compliance period minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using Equation 1 of this section:

$$H_e = A + B - R_w \quad (\text{Eq. 1})$$

Where:

$H_e$  = Mass of organic HAP emissions during the compliance period, kg.

$A$  = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg, as calculated in Equation 1A of this section.

$B$  = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg, as calculated in Equation 1B of this section.

$R_w$  = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to paragraph (a)(4)(iii) of this section. (You may assign a value of zero to  $R_w$  if you do not wish to use this allowance.)

(i) Calculate the kg organic HAP in the coating and printing materials applied during the compliance period using Equation 1A of this section:

$$A = \sum_{i=1}^m (M_{c,i}) (W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

$A$  = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg.

$M_{c,i}$  = Total mass of coating or printing material, i, applied during the compliance period, kg.

$W_{c,i}$  = Mass fraction of organic HAP in coating or printing material, i, kg organic HAP per kg of material.

$m$  = Number of different coating and printing, materials applied during the compliance period.

(ii) Calculate the kg of organic HAP in the thinning and cleaning materials

applied during the compliance period using Equation 1B of this section:

$$B = \sum_{j=1}^n (M_{t,j}) (W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

$B$  = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg.

$M_{t,j}$  = Total mass of thinning or cleaning material, j, applied during the compliance period, kg.

$W_{t,j}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg organic HAP per kg thinning or cleaning material.

$n$  = Number of different thinning and cleaning materials applied during the compliance period.

(iii) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this section, then you must determine it according to paragraphs (a)(4)(iii)(A) through (D) of this section.

(A) You may include in the determination only waste materials that are generated by web coating/printing operations in the affected source for which you use Equation 1 of this section and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include organic HAP contained in wastewater.

(B) You must determine either the amount of the waste materials sent to a TSDF during the compliance period or the amount collected and stored during the compliance period designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a compliance period if you have already included them in the amount collected and stored during that compliance period or a previous compliance period.

(C) Determine the total mass of organic HAP contained in the waste materials specified in paragraph (a)(4)(iii)(B) of this section.

(D) You must document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in § 63.4312(g). To the extent that waste manifests include this, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(5) *Calculate the total mass of coating and printing solids.* Determine the total

mass of coating and printing solids applied, kg, which is the combined mass of the solids contained in all the coating and printing materials applied during the compliance period, using Equation 2 of this section:

$$H_t = \sum_{i=1}^m (M_{c,i}) (W_{f,i}) \quad (\text{Eq. 2})$$

Where:

$H_t$  = Total mass of solids contained in coating and printing materials applied during the compliance period, kg.

$M_{c,i}$  = Mass of coating or printing material,  $i$ , applied during the compliance period, kg.

$W_{f,i}$  = mass fraction of solids in coating or printing material,  $i$ , applied during the compliance period, kg solids per kg of coating or printing material.

$m$  = Number of coating and printing materials applied during the compliance period.

(6) Calculate the organic HAP emission rate for the compliance period, kg organic HAP emitted per kg solids used, using Equation 3 of this section:

$$H_{yr} = \frac{H_e}{H_t} \quad (\text{Eq. 3})$$

Where:

$H_{yr}$  = Organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of solids in coating and printing materials applied.

$H_e$  = Total mass organic HAP emissions from all coating, printing, thinning, and cleaning materials applied during the compliance period, kg, as calculated by Equation 1 of this section.

$H_t$  = Total mass of coating and printing solids in materials applied during the compliance period, kg, as calculated by Equation 2 of this section.

(7) *Compliance demonstration.* The organic HAP emission rate for the initial compliance period must be less than or equal to the applicable emission limit in Table 1 to this subpart. You must keep all records as required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required by § 63.4310, you must identify the web coating/printing operation(s) for which you used the emission rate without add-on controls option and submit a statement that the web coating/printing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less

than, or equal to, the applicable emission limit in Table 1 to this subpart.

(b) For dyeing and finishing operations, you may use the emission rate without add-on controls option for any individual dyeing/finishing operation, for any group of dyeing/finishing operations in the affected source, or for dyeing/finishing operations as a group in the affected source. You must use either the compliant material option or the emission rate with add-on controls option for any dyeing/finishing operation in the affected source for which you do not use this option. You may not use the emission rate without add-on controls option for any dyeing/finishing operation in a dyeing/finishing affected source for which you use the equivalent emission rate option. To demonstrate initial compliance using the emission rate without add-on controls option, the dyeing/finishing operation or group of operations must meet the applicable emission limit in Table 1 to this subpart but is not required to meet the operating limits or work practice standards in §§ 63.4292 and 63.4293, respectively. You must meet all the requirements of paragraphs (b)(1) through (6) of this section to demonstrate initial compliance with the applicable emission limit in Table 1 to this subpart for the dyeing/finishing operation(s). When calculating the organic HAP emission rate according to this section, do not include any dyeing and finishing materials applied on dyeing/finishing operations for which you use the compliant material option or the emission rate with add-on controls option. Use the procedures in this section on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. Water added in mixing at the affected source is not a regulated material and should not be included in the determination of the total mass of dyeing and finishing materials applied during the compliance period, using Equation 5 of this section.

(1) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each dyeing and finishing material applied during the compliance period according to the requirements in § 63.4321(e)(1)(iv).

(2) *Determine the mass of each material.* Determine the mass (kg) of each dyeing and finishing material applied during the compliance period by measurement or usage records.

(3) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of

organic HAP contained in all dyeing and finishing materials applied during the compliance period minus the organic HAP in certain waste materials and wastewater streams. Calculate the mass of organic HAP emissions using Equation 4 of this section:

$$H_e = A - R_w - WW \quad (\text{Eq. 4})$$

Where:

$H_e$  = Mass of organic HAP emissions during the compliance period, kg.

$A$  = Total mass of organic HAP in the dyeing and finishing materials applied during the compliance period, kg, as calculated in Equation 4A of this section.

$R_w$  = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to paragraph (b)(3)(ii) of this section. (You may assign a value of zero to  $R_w$  if you do not wish to use this allowance.)

$WW$  = Total mass of organic HAP in wastewater discharged to a POTW or receiving onsite secondary treatment during the compliance period, kg, determined according to paragraph (b)(3)(iii) of this section. (You may assign a value of zero to  $WW$  if you do not wish to use this allowance.)

(i) Calculate the kg organic HAP in the dyeing and finishing materials applied during the compliance period using Equation 4A of this section:

$$A = \sum_{i=1}^m (M_{c,i}) (W_{c,i}) \quad (\text{Eq. 4A})$$

Where:

$A$  = Total mass of organic HAP in the dyeing and finishing materials applied during the compliance period, kg.

$M_{c,i}$  = Mass of dyeing or finishing material,  $i$ , applied during the compliance period, kg.

$W_{c,i}$  = Mass fraction of organic HAP in dyeing or finishing material,  $i$ , kg organic HAP per kg of material.

$m$  = Number of dyeing and finishing materials applied during the compliance period.

(ii) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 4 of this section, then you must determine it according to paragraphs (b)(3)(ii)(A) through (D) of this section.

(A) You may include in the determination only waste materials that are generated by dyeing/finishing

operations in the affected source for which you use Equation 4 of this section and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include organic HAP contained in wastewater.

(B) You must determine either the amount of the waste materials sent to a TSDF during the compliance period or the amount collected and stored during the compliance period designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a compliance period if you have already included them in the amount collected and stored during that compliance period or a previous compliance period.

(C) Determine the total mass of organic HAP contained in the waste materials specified in paragraph (b)(3)(ii)(B) of this section.

(D) You must document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in § 63.4312(g). To the extent that waste manifests include this, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(iii) If you choose to account for the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge in Equation 4 of this section, then you must determine it according to paragraph (c) of this section.

(4) *Calculate the total mass of dyeing and finishing materials.* Determine the total mass of dyeing and finishing materials applied, kg, which is the combined mass of all the dyeing and finishing materials applied during the compliance period, using Equation 5 of this section:

$$M_t = \sum_{i=1}^m (M_{c,i}) \quad (\text{Eq. 5})$$

Where:

$M_t$  = Total mass of dyeing and finishing materials applied during the compliance period, kg.

$M_{c,i}$  = Mass of dyeing or finishing material,  $i$ , applied during the compliance period, kg.

$m$  = Number of dyeing and finishing materials applied during the compliance period.

(5) Calculate the organic HAP emission rate, kg organic HAP emitted per kg dyeing and finishing material applied, using Equation 6 of this section:

$$H_{yr} = \frac{H_c}{M_t} \quad (\text{Eq. 6})$$

Where:

$H_{yr}$  = The organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of dyeing and finishing materials.

$H_c$  = Total mass of organic HAP emissions during the compliance period, kg, as calculated by Equation 4 of this section.

$M_t$  = Total mass of dyeing and finishing materials applied during the compliance period, kg, as calculated by Equation 5 of this section.

(6) *Compliance demonstration.* The organic HAP emission rate for the initial compliance period must be less than or equal to the applicable emission limit in Table 1 to this subpart. You must keep all records as required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required by § 63.4310, you must identify the dyeing/finishing operation(s) for which you used the emission rate without add-on controls option and submit a statement that the dyeing/finishing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in Table 1 to this subpart.

(i) If your affected source performs only dyeing operations, paragraphs (b)(1) through (5) of this section apply to dyeing materials only, and you must demonstrate compliance with the emission limit in Table 1 to this subpart for dyeing operations.

(ii) If your affected source performs only finishing operations, paragraphs (b)(1) through (5) of this section apply to finishing materials only, and you must demonstrate compliance with the emission limit in Table 1 to this subpart for finishing operations.

(iii) If your affected source performs both dyeing and finishing operations, paragraphs (b)(1) through (5) of this section apply to dyeing and finishing materials combined, and you must demonstrate compliance with the emission limit in Table 1 to this subpart for dyeing and finishing operations.

(c) If you choose to account for the mass of organic HAP contained in wastewater discharged to a POTW or treated onsite prior to discharge in Equation 4 of this section, then you must determine it according to paragraphs (c)(1) through (5) of this section. You may include in the determination only wastewater streams that are generated by dyeing/finishing

operations in the affected source for which you use Equation 4 of this section. You must determine the mass of organic HAP from the average organic HAP concentration and mass flow rate of each wastewater stream generated by the affected dyeing/finishing operation (or group of dyeing/finishing operations discharging to a common wastewater stream) for which you use this allowance. You must consider the actual or anticipated production over the compliance period and include all wastewater streams generated by the affected dyeing/finishing operation(s) during this period. A performance test of the organic HAP loading to the wastewater shall be performed for each operating scenario, as defined in § 63.4371, during the compliance period.

(1) *Procedure to determine average organic HAP concentration.* You must determine the average organic HAP concentration,  $H_w$ , of each wastewater stream according to paragraphs (c)(1)(i) through (vi) of this section.

(i) *Sampling.* Wastewater samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period (or over the period that wastewater is being discharged from a batch process if it is shorter than a 1-hour period). Each 1-hour period constitutes a run, and a performance test shall consist of a minimum of 3 runs.

(ii) *Methods.* You may use any of the methods specified in paragraphs (c)(1)(ii)(A) through (E) of this section to determine the organic HAP content of the wastewater stream. The method shall be an analytical method for wastewater which has the organic HAP compound discharged to the wastewater as a target analyte.

(A) *Method 305.* Use procedures specified in Method 305 of 40 CFR part 63, appendix A.

(B) *Methods 624 and 625.* Use procedures specified in Method 624 and Method 625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in paragraph (c)(1)(iii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed. For Method 625, make corrections to the compounds for which the analysis is being conducted based on the accuracy as recovery factors in Table 7 of the method.

(C) *Methods 1624 and 1625.* Use procedures specified in Method 1624

and Method 1625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in paragraph (c)(1)(iii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed.

(D) *Other EPA method(s)*. Use procedures specified in the method and comply with the requirements specified in paragraphs (c)(1)(iii) and either paragraph (c)(1)(iv)(A) or (B) of this section.

(E) *Methods other than EPA method*. Use procedures specified in the method and comply with the requirements specified in paragraphs (c)(1)(iii) and paragraph (c)(1)(iv)(A) of this section.

(iii) *Sampling plan*. If you have been expressly referred to this paragraph by provisions of this subpart, you shall prepare a sampling plan. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sampling plan shall include procedures for determining recovery efficiency of the relevant organic HAP. An example of an example sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D of 40 CFR part 60, appendix A. You shall maintain the sampling plan at the facility.

(iv) *Validation of methods*. You shall validate EPA methods other than Methods 305, 624, 625, 1624, 1625 using the procedures specified in paragraph (c)(1)(iv)(A) or (B) of this section.

(A) *Validation of EPA methods and other methods*. The method used to measure organic HAP concentrations in the wastewater shall be validated according to section 5.1 or 5.3, and the corresponding calculations in section 6.1 or 6.3, of Method 301 of appendix A of this part. The data are acceptable if they meet the criteria specified in section 6.1.5 or 6.3.3 of Method 301 of appendix A of this part. If correction is required under section 6.3.3 of Method 301 of appendix A of this part, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 of appendix A of this part are not required.

(B) *Validation for EPA methods*. Follow the procedures as specified in "Alternative Validation Procedure for EPA Waste Methods" 40 CFR part 63, appendix D.

(v) *Calculate the average concentration*. You shall calculate the

average concentration for each individually speciated organic HAP compound by adding the individual values determined for the specific compound in each sample and dividing by the number of samples.

(vi) *Adjustment for concentrations determined downstream of the point of determination*. You shall make corrections to the specific compound average concentration or total organic HAP average concentration when the concentration is determined downstream of the point of determination at a location where either wastewater streams from outside of the affected dyeing/finishing operation or group of dyeing/finishing operations have been mixed with the affected wastewater stream or one or more affected wastewater streams have been treated. You shall make the adjustments either to the individual data points or to the final average organic HAP concentration.

(2) *Procedures to determine mass flow rate*. For each operating scenario, as defined in § 63.4371, for which you have determined the organic HAP content of the wastewater stream, you shall determine the annual average mass flow rate,  $F_w$ , of the wastewater stream either at the point of determination or downstream of the point of determination with adjustment for flow rate changes made according to paragraph (c)(2)(ii) of this section. The annual average mass flow rate for the wastewater stream shall be representative of actual or anticipated operation of the dyeing/finishing operation(s) generating the wastewater over the compliance period. You must determine the annual average mass flow rate of each wastewater stream according to paragraphs (c)(2)(i) and (ii) of this section.

(i) *Procedures*. The procedures specified in paragraphs (c)(2)(i)(A) through (C) of this section are considered acceptable procedures for determining the mass flow rate. They may be used in combination, and no one procedure shall take precedence over another.

(A) *Knowledge of the wastewater*. You may use knowledge of the wastewater stream and/or the process to determine the annual average mass flow rate. You shall use the maximum expected annual average production capacity of the dyeing/finishing operation(s), knowledge of the process, and/or mass balance information to either estimate directly the average wastewater mass flow rate for the compliance period or estimate the total wastewater mass flow for the compliance period and then factor the total mass by the percentage

of time in the compliance period the operating scenario is expected to represent. Where you use knowledge to determine the annual average mass flow rate, you shall provide sufficient information to document the mass flow rate.

(B) *Historical records*. You may use historical records to determine the average annual mass flow rate. Derive the highest annual average mass flow rate of wastewater from historical records representing the most recent 5 years of operation, or if the dyeing/finishing operation(s) has(have) been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the process unit. Where historical records are used to determine the annual average mass flow rate, you shall provide sufficient information to document the mass flow rate.

(C) *Measurement of mass flow rate*. If you elect to measure mass flow rate, you shall comply with the requirements of this paragraph. Measurements shall be made at the point of determination, or at a location downstream of the point of determination with adjustments for mass flow rate changes made according to paragraph (c)(2)(ii) of this section. Where measurement data are used to determine the annual average mass flow rate, you shall provide sufficient information to document the mass flow rate.

(ii) *Adjustment for flow rates determined downstream of the point of determination*. You shall make corrections to the average annual mass flow rate of a wastewater stream when it is determined downstream of the point of determination at a location where either wastewater streams from outside of the affected dyeing/finishing operation or group of dyeing/finishing operations have been mixed with the affected wastewater stream or one or more wastewater streams have been treated. You shall make corrections for such changes in the annual average mass flow rate.

(3) *Wastewater treatment*. You shall document that the wastewater is either discharged to a POTW or onsite secondary wastewater treatment.

(4) *Determine the mass of organic HAP in the affected wastewater*. Determine the total mass of organic HAP, WW, contained in the wastewater streams characterized by the procedures in paragraphs (c)(1) and (2) of this section, using Equation 7 of this section:

$$WW = \sum_{k=1}^o (H_{w,k}) (F_{w,k}) \times 10^{-3} \quad (\text{Eq. 7})$$

Where:

WW = The total mass of organic HAP contained in the wastewater streams characterized by the procedures in paragraphs (c)(1) and (2) of this section, kg/yr

$H_{w,k}$  = Average organic HAP concentration of wastewater stream k, ppmw

$F_{w,k}$  = Annual average mass flow rate of wastewater stream k, Mg/yr

o = Number of wastewater streams characterized by the procedures in paragraphs (c)(1) and (2) of this section.

This is your allowance for organic HAP discharged to wastewater and not emitted to the atmosphere, WW in Equation 4.

(5) *Determine the fraction of organic HAP applied that is discharged to the wastewater.* For the purpose of taking credit for the wastewater allowance in continuous compliance demonstrations, determine the fraction of organic HAP applied in affected dyeing/finishing processes that is discharged to the wastewater, *i.e.*, divide WW by the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, as calculated in Equation 4A of this section. The wastewater allowance for this fraction of organic HAP that is not emitted from the affected dyeing/finishing operation(s) may be taken for each compliance period that the operating scenario, as defined in § 63.4371, does not change from conditions during the performance test in a way that could increase the fraction of organic HAP emitted (*e.g.*, an increase in process temperature or decrease in process pressure or a change in the type or mass fraction of organic HAP entering the dyeing/finishing operation.) The allowance, WW, must be calculated by multiplying the fraction of organic HAP applied in affected processes that is discharged to the wastewater determined from the most recent performance test by the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, as calculated in Equation 4A of this section.

(d) If you are determining the fraction of organic HAP applied in your dyeing/finishing affected source that is discharged to the wastewater, to demonstrate compliance with the equivalent emission rate option of § 63.4291(c)(4), then you must determine it according to paragraphs (d)(1) through (5) of this section. You must include in the determination only wastewater streams generated by dyeing/finishing operations in your affected source. You shall determine the mass of organic HAP from the average

organic HAP concentration and mass flow rate of each wastewater stream generated by each dyeing/finishing operation (or group of dyeing/finishing operations discharging to a common wastewater stream) in your affected source. You shall consider the actual or anticipated production over the compliance period and include all wastewater streams generated by the affected dyeing/finishing operation(s) during this period. A performance test of the organic HAP loading to the wastewater shall be conducted for each operating scenario, as defined in § 63.4371, during the compliance period.

(1) *Procedure to determine average organic HAP concentration.* You must determine the average organic HAP concentration of each wastewater stream according to paragraphs (c)(1)(i) through (vi) of this section.

(2) *Procedures to determine mass flow rate.* For each operating scenario, as defined in § 63.4371, for which you have determined the organic HAP content of the wastewater stream, you shall determine the annual average mass flow rate of the wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for flow rate changes made according to paragraph (c)(2)(ii) of this section. The annual average mass flow rate for the wastewater stream shall be representative of actual or anticipated operation of the dyeing/finishing operation(s) generating the wastewater over the compliance period. You must determine the annual average mass flow rate of each wastewater stream according to paragraphs (c)(2)(i) and (ii) of this section.

(3) *Wastewater treatment.* You shall document that the wastewater is either discharged to a POTW or onsite secondary wastewater treatment.

(4) *Determine the mass of organic HAP in the affected wastewater.* Determine the total mass of organic HAP, WW, contained in the wastewater streams characterized by the procedures in paragraphs (d)(1) and (2) of this section, using Equation 7 of this section.

(5) *Determine the fraction of organic HAP applied that is discharged to the wastewater.* Determine the fraction of organic HAP applied in your dyeing/finishing affected source that is discharged to the wastewater, *i.e.*, divide WW by the mass of organic HAP in the dyeing and finishing materials applied during the compliance period, A, as calculated in Equation 4A of this section. One of the conditions that must be met to demonstrate compliance with the equivalent emission rate option is

that the fraction of organic HAP applied in your dyeing/finishing affected source that is discharged to the wastewater must be at least 90 percent.

#### **§ 63.4332 How do I demonstrate continuous compliance with the emission limitations?**

(a) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to § 63.4331(a) for web coating/printing operations and according to § 63.4331(b) for dyeing/finishing operations, must be less than or equal to the applicable emission limit in Table 1 to this subpart. Each month following the initial compliance period described in § 63.4330 is a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in § 63.4331 on a monthly basis.

(b) If the organic HAP emission rate for any compliance period exceeded the applicable emission limit in Table 1 to this subpart, this is a deviation from the emission limitations for that compliance period and must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(6).

(c) As part of each semiannual compliance report required by § 63.4311, you must identify any web coating/printing operation or dyeing/finishing operation for which you used the emission rate without add-on controls option. If there were no deviations from the applicable emission limit in Table 1 to this subpart, you must submit a statement that, as appropriate, the web coating/printing operations or the dyeing/finishing operations were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in Table 1 to this subpart.

(d) You must maintain records as specified in §§ 63.4312 and 63.4313.

#### **Compliance Requirements for the Emission Rate With Add-On Controls Option**

##### **§ 63.4340 By what date must I conduct performance tests and other initial compliance demonstrations?**

(a) *New and reconstructed affected sources.* For a new or reconstructed affected source, you must meet the requirements of paragraphs (a)(1) through (4) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in § 63.4283. Except for solvent recovery

systems for which you conduct liquid-liquid material balances according to § 63.4341(e)(5) or (f)(5), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§ 63.4360, 63.4361, and 63.4362, and establish the operating limits required by § 63.4292, within 180 days of the applicable compliance date specified in § 63.4283. For a solvent recovery system for which you conduct liquid-liquid material balances according to § 63.4341(e)(5) or (f)(5), you must initiate the first material balance no later than the applicable compliance date specified in § 63.4283.

(2) You must develop and begin implementing the work practice plan required by § 63.4293 no later than the compliance date specified in § 63.4283.

(3) You must complete the compliance demonstration for the initial compliance period according to the requirements of § 63.4341. The initial compliance period begins on the applicable compliance date specified in § 63.4283 and ends on the last day of the 12th full month after the compliance date, or the date you conduct the performance tests of the emission capture systems and add-on control devices, or initiate the first liquid-liquid material balance for a solvent recovery system, whichever is later. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§ 63.4360, 63.4361, and 63.4362; results of liquid-liquid material balances conducted according to § 63.4341(e)(5) or (f)(5); calculations according to § 63.4341 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in Table 1 to this subpart; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by § 63.4364; and documentation of whether you developed and implemented the work practice plan required by § 63.4293.

(4) You do not need to comply with the operating limits for the emission capture system and add-on control device required by § 63.4292 until after you have completed the performance tests specified in paragraph (a)(1) of this section. Instead, you must maintain a log detailing the operation and maintenance of the emission capture system, add-on control device, and continuous parameter monitors during the period between the compliance date and the performance test. You must begin complying with the operating

limits for your affected source on the date you complete the performance tests specified in paragraph (a)(1) of this section. This requirement does not apply to solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements of § 63.4341(e)(5) or (f)(5).

(b) *Existing sources.* For an existing affected source, you must meet the requirements of paragraphs (b)(1) through (3) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in § 63.4283. Except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4341(e)(5) or (f)(5), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§ 63.4360, 63.4361, and 63.4362, and establish the operating limits required by § 63.4292, within 180 days of the compliance date specified in § 63.4283. For a solvent recovery system for which you conduct liquid-liquid material balances according to § 63.4341(e)(5) or (f)(5), you must initiate the first material balance no later than the compliance date specified in § 63.4283.

(2) You must develop and begin implementing the work practice plan required by § 63.4293 no later than the compliance date specified in § 63.4283.

(3) You must complete the compliance demonstration for the initial compliance period according to the requirements of § 63.4341. The initial compliance period begins on the applicable compliance date specified in § 63.4283 and ends on the last day of the 12th full month after the compliance date. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§ 63.4360, 63.4361, and 63.4362; results of liquid-liquid material balances conducted according to § 63.4341(e)(5) or (f)(5); calculations according to § 63.4561 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in Table 1 to this subpart; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by § 63.4364; and documentation of whether you developed and implemented the work practice plan required by § 63.4293.

#### **§ 63.4341 How do I demonstrate initial compliance?**

(a) You may use the emission rate with add-on controls option for any individual web coating/printing operation, for any group of web coating/printing operations in the affected source, or for all of the web coating/printing operations in the affected source. You may include both controlled and uncontrolled web coating/printing operations in a group for which you use this option. You must use either the compliant material option, the emission rate without add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option for any web coating/printing operation in the affected source for which you do not use the emission rate with add-on controls option. To demonstrate initial compliance, any web coating/printing operation for which you use the emission rate with add-on controls option must meet the applicable emission limitations in Table 1 to this subpart, and in §§ 63.4292 and 63.4293. You must meet all the requirements of paragraphs (a), (c), (d), and (e) of this section. When calculating the organic HAP emission rate according to this section, do not include any coating, printing, thinning, or cleaning materials applied on web coating/printing operations for which you use the compliant material option, the emission rate without add-on controls option, the organic HAP overall control efficiency option, or the oxidizer outlet organic HAP concentration option. You do not need to redetermine the mass of organic HAP in coating, printing, thinning, or cleaning materials that have been reclaimed onsite and reused in the web coating/printing operation(s) for which you use the emission rate with add-on control option.

(b) You may use the emission rate with add-on controls option for any individual dyeing/finishing operation, for any group of dyeing/finishing operations in the affected source, or for all of the dyeing/finishing operations in the affected source. You may include both controlled and uncontrolled dyeing/finishing operations in a group for which you use this option. You must use either the compliant material option or the emission rate without add-on controls option for any dyeing/finishing operation in the affected source for which you do not use the emission rate with add-on controls option. You may not use the emission rate with add-on controls option for any dyeing/finishing operation in a dyeing/finishing affected source for which you use the equivalent

emission rate option. To demonstrate initial compliance, any dyeing/finishing operation for which you use the emission rate with add-on controls option must meet the applicable emission limitations in Table 1 to this subpart, and in §§ 63.4292 and 63.4293. You must meet all the requirements of paragraphs (b), (c), (d), and (f) this section. When calculating the organic HAP emission rate according to this section, do not include any dyeing or finishing materials applied on dyeing/finishing operations for which you use the compliant material option or the emission rate without add-on controls option. You do not need to redetermine the mass of organic HAP in dyeing or finishing materials that have been reclaimed onsite and reused in the dyeing/finishing operation(s) for which you use the emission rate with add-on controls option.

(c) *Compliance with operating limits.* Except as provided in § 63.4340(a)(4), and except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4341(e)(5) or (f)(5), you must establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by § 63.4292, using the procedures specified in §§ 63.4363 and 63.4364.

(d) *Compliance with work practice requirements.* You must develop, implement, and document your implementation of the work practice plan required by § 63.4293 during the initial compliance period as specified in § 63.4312.

(e) *Compliance with web coating/printing emission limits.* You must follow the procedures in paragraphs (e)(1) through (8) of this section to demonstrate compliance with the

applicable web coating/printing emission limit in Table 1 to this subpart.

(1) *Determine the mass fraction of organic HAP, the mass fraction of solids, and mass of materials.* Follow the procedures specified in § 63.4331(a)(1), (2), and (3) to determine the mass fraction of organic HAP for each coating, printing, thinning, and cleaning material applied during the compliance period; the mass fraction of solids for each coating and printing material applied during the compliance period; and mass of each coating, printing, thinning, and cleaning material applied during the compliance period.

(2) *Calculate the mass of organic HAP emissions before add-on controls.* Using Equation 1 of § 63.4331, calculate the mass of organic HAP emissions before add-on controls from all coating, printing, thinning, and cleaning materials applied during the compliance period minus the organic HAP in certain waste materials in the web coating/printing operation or group of web coating/printing operations for which you use the emission rate with add-on controls.

(3) *Calculate the organic HAP emissions reductions for each controlled web coating/printing operation.* Determine the mass of organic HAP emissions reduced for each controlled web coating/printing operation during the compliance period. The emissions reductions determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in paragraph (e)(4) of this section to calculate the mass of organic HAP emissions reductions for each controlled web coating/printing operation using an emission capture

system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. For each controlled web coating/printing operation using a solvent recovery system for which you conduct a liquid-liquid material balance, use the procedures in paragraph (e)(5) of this section to calculate the organic HAP emissions reductions.

(4) *Calculate the organic HAP emission reduction for each controlled web coating/printing operation not using liquid-liquid material balance.* For each controlled web coating/printing operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emissions reductions using Equation 1 of this section. The equation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the coating, printing, thinning, and cleaning materials applied in the web coating/printing operation served by the emission capture system and add-on control device during the compliance period. For any period of time a deviation specified in § 63.4342(c) or (d) occurs in the controlled web coating/printing operation, including a deviation during startup, shutdown, or malfunction, then you must assume zero efficiency for the emission capture system and add-on control device. Equation 1 of this section treats the coating, printing, thinning, and cleaning materials applied during such a deviation as if they were used on an uncontrolled web coating/printing operation for the time period of the deviation.

$$H_C = (A_I + B_I - H_{UNC}) \left( \frac{CE}{100} \times \frac{DRE}{100} \right) \quad (\text{Eq. 1})$$

Where:

$H_C$  = Mass of organic HAP emission reduction for the controlled web coating/printing operation during the compliance period, kg.

$A_I$  = Total mass of organic HAP in the coating and printing materials applied in the controlled web coating/printing operation during the compliance period, kg, as calculated in Equation 1A of this section.

$B_I$  = Total mass of organic HAP in the thinning and cleaning materials applied in the controlled web

coating/printing operation during the compliance period, kg, as calculated in Equation 1B of this section.

$H_{UNC}$  = Total mass of organic HAP in the coating, printing, thinning, and cleaning materials applied during all deviations specified in § 63.4342(c) and (d) that occurred during the compliance period in the controlled web coating/printing operation, kg, as calculated in Equation 1C of this section.

CE = Capture efficiency of the emission capture system vented to the add-on

control device, percent. Use the test methods and procedures specified in §§ 63.4360 and 63.4361 to measure and record capture efficiency.

DRE = Organic HAP destruction or removal efficiency of the add-on control device, percent. Use the test methods and procedures in §§ 63.4360 and 63.4362 to measure and record the organic HAP destruction or removal efficiency.

(i) Calculate the total mass of organic HAP in the coating and printing materials applied in the controlled web

coating/printing operation(s) during the compliance period, kg, using Equation 1A of this section:

$$A_I = \sum_{i=1}^m (M_{c,i}) (W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

$A_I$  = Total mass of organic HAP in the coating and printing materials applied in the controlled web coating/printing operation(s) during the compliance period, kg.

$M_{c,i}$  = Mass of coating or printing material, i, applied during the compliance period, kg.

$W_{c,i}$  = Mass fraction of organic HAP in coating or printing material, i, kg per kg.

$m$  = Number of different coating and printing materials applied during compliance period.

(ii) Calculate the total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operation(s) during the compliance period, kg, using Equation 1B of this section:

$$B_I = \sum_{j=1}^n (M_{t,j}) (W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

$B_I$  = Total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operation(s) during the compliance period, kg.

$M_{t,j}$  = Total mass of thinning or cleaning material, j, applied during the compliance period, kg.

$W_{t,j}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg per kg.

$n$  = Number of different thinning and cleaning materials applied during the compliance period.

(iii) Calculate the mass of organic HAP in the coating, printing, thinning, and cleaning materials applied in the controlled web coating/printing

operation during deviations specified in § 63.4342(c) and (d), using Equation 1C of this section.

$$H_{\text{UNC}} = \sum_{h=1}^q (M_h) (W_h) \quad (\text{Eq. 1C})$$

Where:

$H_{\text{UNC}}$  = Total mass of organic HAP in the coating, printing, thinning, and cleaning materials applied during all deviations specified in § 63.4342 (c) and (d) that occurred during the compliance period in the controlled web coating/printing operation, kg.

$M_h$  = Total mass of coating, printing, thinning, or cleaning material, h, applied in the controlled web coating/printing operation during deviations, kg.

$W_h$  = Mass fraction of organic HAP in coating, printing, thinning, or cleaning material, h, kg organic HAP per kg material.

$q$  = Number of different coating, printing, thinning, and cleaning materials applied and used.

(5) Calculate the organic HAP emissions reductions for controlled web coating/printing operation using liquid-liquid material balances. For each controlled web coating/printing operation using a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emissions reductions by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coating, printing, thinning, and cleaning materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period. Perform a liquid-liquid material balance for the compliance period as specified in paragraphs (e)(5)(i) through (v) of this section. Calculate the mass of organic HAP emissions reductions by the solvent recovery system as specified in paragraph (e)(5)(vi) of this section.

(i) For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system for the compliance period. The device must be initially certified by the manufacturer to be accurate to within  $\pm 2.0$  percent of the mass of volatile organic matter recovered.

(ii) For each solvent recovery system, determine the mass of volatile organic matter recovered for the compliance period, kg, based on measurement with the device required in paragraph (e)(5)(i) of this section.

(iii) Determine the mass fraction of volatile organic matter for each coating, printing, cleaning, and thinning material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg volatile organic matter per kg coating, printing, cleaning, and thinning material. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, appendix A, or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating or printing material. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 of 40 CFR part 60, appendix A, or an approved alternative method, the test method results will govern.

(iv) Measure the mass of each coating, printing, thinning, and cleaning material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.

(v) For the compliance period, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency using Equation 2 of this section:

$$R_V = 100 \frac{M_{\text{VR}}}{\sum_{i=1}^m M_i W_{V,c,i} + \sum_{j=1}^n M_j W_{V,t,j}} \quad (\text{Eq. 2})$$

Where:

$R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, percent.

$M_{\text{VR}}$  = Mass of volatile organic matter recovered by the solvent recovery

system during the compliance period, kg.

$M_i$  = Mass of coating or printing material, i, applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.

$W_{V,c,i}$  = Mass fraction of volatile organic matter for coating or printing material, i, kg volatile organic matter per kg coating or printing material.

$M_j$  = Mass of thinning or cleaning material, j, applied in the web coating/printing operation controlled by the solvent recovery

system during the compliance period, kg.  
 $WV_{t,j}$  = Mass fraction of volatile organic matter for thinning or cleaning material, j, kg volatile organic matter per kg thinning or cleaning material.  
 m = Number of different coating and printing materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period.  
 n = Number of different thinning and cleaning materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period.

(vi) Calculate the mass of organic HAP emission reductions for the web coating/printing operation controlled by the solvent recovery system during the compliance period using Equation 3 of this section and according to paragraphs (e)(5)(vi)(A) and (B) of this section:

$$H_{CSR} = (A_{CSR} + B_{CSR}) \left( \frac{R_v}{100} \right) \quad (\text{Eq. 3})$$

Where:

$H_{CSR}$  = Mass of organic HAP emission reduction for the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.  
 $A_{CSR}$  = Total mass of organic HAP in the coating and printing material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg, calculated using Equation 3A of this section.  
 $B_{CSR}$  = Total mass of organic HAP in the thinning and cleaning materials

applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg, calculated using Equation 3B of this section.  
 $R_v$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 of this section.

(A) Calculate the total mass of organic HAP in the coating and printing materials applied in the web coating/printing operation(s) controlled by the solvent recovery system during the compliance period, kg, using Equation 3A of this section:

$$A_{CSR} = \sum_{i=1}^m (M_{c,i}) (W_{c,i}) \quad (\text{Eq. 3A})$$

Where:

$A_{CSR}$  = Total mass of organic HAP in the coating and printing materials applied in the web coating/printing operations(s) controlled by the solvent recovery system during the compliance period, kg.  
 $M_{c,i}$  = Mass of coating or printing material, i, applied during the compliance period in the web coating/printing operation(s) controlled by the solvent recovery system, kg.  
 $W_{c,i}$  = Mass fraction of organic HAP in coating or printing material, i, kg per kg.  
 m = Number of different coating and printing materials applied during compliance period.  
 (B) Calculate the total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operation(s) controlled by the solvent recovery system during the

compliance period, kg, using Equation 3B of this section:

$$B_{CSR} = \sum_{j=1}^n (M_{t,j}) (W_{t,j}) \quad (\text{Eq. 3B})$$

Where:

$B_{CSR}$  = Total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operation(s) controlled by the solvent recovery system during the compliance period, kg.  
 $M_{t,j}$  = Total mass of thinning or cleaning material, j, applied during the compliance period in the web coating/printing operation(s) controlled by the solvent recovery system, kg.  
 $W_{t,j}$  = Mass fraction of organic HAP in thinning or cleaning material, j, kg per kg.  
 n = Number of different thinning and cleaning materials applied during the compliance period.

(6) Calculate the total mass of coating and printing solids. Determine the total mass of coating and printing solids applied, kg, which is the combined mass of the solids contained in all the coating and printing material applied during the compliance period in the web coating/printing operation(s) for which you use the emission rate with add-on controls option, using Equation 2 of § 63.4331.

(7) Calculate the organic HAP emission rate with add-on controls for the compliance period. Determine the organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg solids applied during the compliance period, using Equation 4 of this section.

$$H_{HAP} = \frac{H_e - \sum_{i=1}^q (H_{C,i}) - \sum_{j=1}^r (H_{CSR,j})}{H_t} \quad (\text{Eq. 4})$$

Where:

$H_{HAP}$  = Organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg solids applied.  
 $H_e$  = Total mass of organic HAP emissions before add-on controls from all the coating, printing, thinning, and cleaning materials applied during the compliance period, kg, determined according to paragraph (e)(2) of this section.  
 $H_{C,i}$  = Total mass of organic HAP emissions reduction for controlled web coating/printing operation, i,

not using a liquid-liquid material balance, during the compliance period, kg, from Equation 1 of this section.  
 $H_{CSR,j}$  = Total mass of organic HAP emissions reduction for web coating/printing operation, j, controlled by a solvent recovery system using a liquid-liquid material balance, during the compliance period, kg, from Equation 3 of this section.  
 $H_t$  = Total mass of coating and printing solids applied during the

compliance period, kg, from Equation 2 of § 63.4331.  
 q = Number of controlled web coating/printing operations not using a liquid-liquid material balance.  
 r = Number of web coating/printing operations controlled by a solvent recovery system using a liquid-liquid material balance.  
 (8) Compliance demonstration. To demonstrate initial compliance with the emission limit, the organic HAP emission rate with add-on controls for the compliance period, calculated using Equation 4 of this section, must be less

than or equal to the applicable emission limit in Table 1 to this subpart. You must keep all records as required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required by § 63.4310, you must identify the web coating/printing operation(s) for which you used the emission rate with add-on controls option and submit a statement that the web coating/printing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in Table 1 to this subpart, and that you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293.

(f) *Compliance with dyeing/finishing emission limits.* You must follow the procedures in paragraphs (f)(1) through (8) of this section to demonstrate compliance with the applicable dyeing/finishing emission limit in Table 1 to this subpart.

(1) *Determine the mass fraction of organic HAP and mass of materials.* Follow the procedures specified in § 63.4331(b)(1) and (2) to determine the mass fraction of organic HAP for each dyeing and finishing material applied and mass of each dyeing and finishing material applied during the compliance period.

(2) *Calculate the mass of organic HAP emissions before add-on controls.* Using Equation 4 of § 63.4331, calculate the mass of organic HAP emissions before add-on controls from all dyeing and finishing materials applied during the compliance period minus the organic HAP in certain waste materials and wastewaters in the dyeing/finishing operation or group of dyeing/finishing operations for which you use the emission rate with add-on controls option.

(3) *Calculate the organic HAP emissions reductions for each controlled dyeing/finishing operation.* Determine the mass of organic HAP emissions reduced for each controlled dyeing/finishing operation during the compliance period. The emissions reductions determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in paragraph (f)(4) of this section to calculate the mass of organic HAP emissions reductions for each controlled dyeing/finishing operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. For each controlled dyeing/finishing

operation using a solvent recovery system for which you conduct a liquid-liquid material balance, use the procedures in paragraph (f)(5) of this section to calculate the organic HAP emissions reductions.

(4) *Calculate the organic HAP emission reduction for each controlled dyeing/finishing operation not using liquid-liquid material balance.* For each controlled dyeing/finishing operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emissions reductions using Equation 5 of this section. The equation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the dyeing and finishing materials applied in the dyeing/finishing operation served by the emission capture system and add-on control device during the compliance period. For any period of time a deviation specified in § 63.4342(c) or (d) occurs in the controlled dyeing/finishing operation, including a deviation during startup, shutdown, or malfunction, then you must assume zero efficiency for the emission capture system and add-on control device. Equation 5 of this section treats the dyeing and finishing materials applied during such a deviation as if they were applied on an uncontrolled dyeing/finishing operation for the time period of the deviation.

$$H_C = (A_I - H_{UNC}) \left( \frac{CE}{100} \times \frac{DRE}{100} \right) \quad (\text{Eq. 5})$$

Where:

$H_C$  = Mass of organic HAP emission reduction for the controlled dyeing/finishing operation during the compliance period, kg.

$A_I$  = Total mass of organic HAP in the dyeing and finishing materials applied in the controlled dyeing/finishing operation during the compliance period, kg, as calculated in Equation 5A of this section.

$H_{UNC}$  = Total mass of organic HAP in the dyeing and finishing materials applied during all deviations specified in § 63.4342(c) and (d) that occurred during the compliance period in the controlled dyeing/finishing operation, kg, as calculated in Equation 5B of this section.

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent. Use the test methods and procedures specified in §§ 63.4360 and 63.4361 to

measure and record capture efficiency.

DRE = Organic HAP destruction or removal efficiency of the add-on control device, percent. Use the test methods and procedures in §§ 63.4360 and 63.4362 to measure and record the organic HAP destruction or removal efficiency.

(i) Calculate the total mass of organic HAP in the dyeing and finishing materials applied in the controlled dyeing/finishing operation(s) during the compliance period, kg, using Equation 5A of this section:

$$A_I = \sum_{i=1}^m (M_{c,i}) (W_{c,i}) \quad (\text{Eq. 5A})$$

Where:

$A_I$  = Total mass of organic HAP in the dyeing and finishing materials applied in the controlled dyeing/finishing operations(s) during the compliance period, kg.

$M_{c,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period, kg.

$W_{c,i}$  = Mass fraction of organic HAP in dyeing or finishing material, i, kg per kg.

m = Number of different dyeing and finishing materials applied during compliance period.

(ii) Calculate the mass of organic HAP in the dyeing and finishing materials applied in the controlled dyeing/finishing operation during deviations specified in § 63.4342(c) and (d), using Equation 5B of this section.

$$H_{UNC} = \sum_{h=1}^q (M_h) (W_h) \quad (\text{Eq. 5B})$$

Where:

$H_{UNC}$  = Total mass of organic HAP in the dyeing and finishing materials applied during all deviations specified in § 63.4342(c) and (d) that occurred during the compliance period in the controlled dyeing/finishing operation, kg.

$M_h$  = Total mass of dyeing and finishing material, h, applied in the controlled dyeing/finishing operation during deviations, kg.

$W_h$  = Mass fraction of organic HAP in dyeing or finishing material, h, kg organic HAP per kg material.

q = Number of different dyeing and finishing materials applied.

(5) *Calculate the organic HAP emissions reductions for controlled dyeing/finishing operation using liquid-liquid material balances.* For each controlled dyeing/finishing operation using a solvent recovery system for which you conduct liquid-liquid

material balances, calculate the organic HAP emissions reductions by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the dyeing and finishing materials applied in the dyeing/finishing operation controlled by the solvent recovery system during the compliance period. Perform a liquid-liquid material balance for the compliance period as specified in paragraphs (f)(5)(i) through (v) of this section. Calculate the mass of organic HAP emissions reductions by the solvent recovery system as specified in paragraph (f)(5)(vi) of this section.

(i) For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system for the compliance period. The device must be initially certified by the manufacturer to be accurate to within ±2.0 percent of the mass of volatile organic matter recovered.

(ii) For each solvent recovery system, determine the mass of volatile organic matter recovered for the compliance period, kg, based on measurement with the device required in paragraph (f)(5)(i) of this section.

(iii) Determine the mass fraction of volatile organic matter for each dyeing and finishing material applied in the dyeing/finishing operation controlled by the solvent recovery system during the compliance period, kg volatile organic matter per kg dyeing and finishing material. You may determine the volatile organic matter mass fraction using information provided by the manufacturer or supplier of the dyeing or finishing material.

(iv) Measure the mass of each dyeing and finishing material applied in the dyeing/finishing operation controlled by the solvent recovery system during the compliance period, kg.

(v) For the compliance period, calculate the solvent recovery system's volatile organic matter collection and

recovery efficiency using Equation 6 of this section:

$$R_V = 100 \frac{M_{VR}}{\sum_{i=1}^m M_i WV_{c,i}} \quad (\text{Eq. 6})$$

Where:

$R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, percent.

$M_{VR}$  = Mass of volatile organic matter recovered by the solvent recovery system during the compliance period, kg.

$M_i$  = Mass of dyeing or finishing material, i, applied in the dyeing/finishing operation controlled by the solvent recovery system during the compliance period, kg.

$WV_{c,i}$  = Mass fraction of volatile organic matter for dyeing or finishing material, i, kg volatile organic matter per kg dyeing or finishing material.

$m$  = Number of different dyeing and finishing materials applied in the dyeing/finishing operation controlled by the solvent recovery system during the compliance period.

(vi) Calculate the mass of organic HAP emission reductions for the dyeing/finishing operation controlled by the solvent recovery system during the compliance period using Equation 7 of this section and according to paragraph (f)(5)(vi)(A) of this section:

$$H_{CSR} = (A_{CSR}) \left( \frac{R_V}{100} \right) \quad (\text{Eq. 7})$$

Where:

$H_{CSR}$  = Mass of organic HAP emission reduction for the dyeing/finishing operation controlled by the solvent recovery system during the compliance period, kg.

$A_{CSR}$  = Total mass of organic HAP in the dyeing and finishing material applied in the dyeing/finishing operation controlled by the solvent recovery system during the

compliance period, kg, calculated using Equation 7A of this section.

$R_V$  = Volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 6 of this section.

(A) Calculate the total mass of organic HAP in the dyeing and finishing materials applied in the dyeing/finishing operation(s) controlled by the solvent recovery system during the compliance period, kg, using Equation 7A of this section:

$$A_{CSR} = \sum_{i=1}^m (M_{c,i}) (W_{c,i}) \quad (\text{Eq. 7A})$$

Where:

$A_{CSR}$  = Total mass of organic HAP in the dyeing and finishing materials applied in the dyeing/finishing operations(s) controlled by the solvent recovery system during the compliance period, kg.

$M_{c,i}$  = Mass of dyeing or finishing material, i, applied during the compliance period in the dyeing/finishing operation(s) controlled by the solvent recovery system, kg.

$W_{c,i}$  = Mass fraction of organic HAP in dyeing or finishing material, i, kg per kg.

$m$  = Number of different dyeing and finishing materials applied during compliance period.

(6) Calculate the total mass of dyeing and finishing materials. Determine the total mass of dyeing and finishing materials applied, kg, which is the combined mass of all the dyeing and finishing materials applied during the compliance period in the dyeing/finishing operation(s) for which you use the emission rate with add-on controls option, using Equation 5 of § 63.4331.

(7) Calculate the organic HAP emission rate with add-on controls for the compliance period. Determine the organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg dyeing and finishing materials applied during the compliance period, using Equation 8 of this section.

$$H_{HAP} = \frac{H_e - \sum_{i=1}^q (H_{C,i}) - \sum_{j=1}^r (H_{CSR,j})}{M_t} \quad (\text{Eq. 8})$$

Where:

$H_{HAP}$  = Organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per

kg dyeing and finishing materials applied.

$H_e$  = Total mass of organic HAP emissions before add-on controls from all the dyeing and finishing

materials applied during the compliance period, kg, determined according to paragraph (f)(2) of this section.

$H_{C,i}$  = Total mass of organic HAP emissions reductions for controlled dyeing/finishing operation,  $i$ , not using a liquid-liquid material balance, during the compliance period, kg, from Equation 5 of this section.

$H_{CSR,j}$  = Total mass of organic HAP emissions reductions for dyeing/finishing operation,  $j$ , controlled by a solvent recovery system using a liquid-liquid material balance, during the compliance period, kg, from Equation 7 of this section.

$M_t$  = Total mass of dyeing and finishing materials applied during the compliance period, kg, from Equation 5 of § 63.4331.

$q$  = Number of controlled dyeing/finishing operations not using a liquid-liquid material balance.

$r$  = Number of dyeing/finishing operations controlled by a solvent recovery system using a liquid-liquid material balance.

(8) *Compliance demonstration.* To demonstrate initial compliance with the emission limit, the organic HAP emission rate with add-on controls for the compliance period, calculated using Equation 8 of this section, must be less than or equal to the applicable emission limit in Table 1 to this subpart. You must keep all records as required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required by § 63.4310, you must identify the dyeing/finishing operation(s) for which you used the emission rate with add-on controls option and submit a statement that the dyeing/finishing operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in Table 1 to this subpart, and that you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293.

**§ 63.4342 How do I demonstrate continuous compliance with the emission limitations?**

(a) To demonstrate continuous compliance with the applicable emission limit in Table 1 to this subpart, the organic HAP emission rate for each compliance period, determined according to § 63.4341(e) for web coating/printing operations and according to § 63.4341(f) for dyeing/finishing operations, must be equal to or less than the applicable emission limit in Table 1 to this subpart. Each month following the initial compliance period described in § 63.4340 is a compliance period consisting of that month and the preceding 11 months. You must perform

the calculations in § 63.4341 on a monthly basis.

(b) If the organic HAP emission rate with add-on controls for any compliance period exceeded the applicable emission limit in Table 1 to this subpart, this is a deviation from the emission limitation for that compliance period and must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7).

(c) You must demonstrate continuous compliance with each operating limit required by § 63.4292 that applies to you, as specified in Table 2 to this subpart.

(1) If an operating parameter is out of the allowed range specified in Table 2 to this subpart, this is a deviation from the operating limit that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7).

(2) If an operating parameter deviates from the operating limit specified in Table 2 to this subpart, then you must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation. For the purposes of completing the compliance calculations specified in § 63.4341 (e)(4) and (f)(4), you must treat the regulated materials applied during a deviation on a controlled coating/printing or dyeing/finishing operation as if they were applied on an uncontrolled coating/printing or dyeing/finishing operation for the time period of the deviation, as indicated in Equation 1 of § 63.4341 for a web coating/printing operation, and in Equation 5 of § 63.4341 for a dyeing/finishing operation.

(d) You must meet the requirements for bypass lines in § 63.4364(b) for controlled coating/printing or dyeing/finishing operations for which you do not conduct liquid-liquid material balances. If any bypass line is opened and emissions are diverted to the atmosphere when the web coating/printing or dyeing/finishing operation is running, this is a deviation that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7). For the purposes of completing the compliance calculations specified in § 63.4341(e)(4), you must treat the coating, printing, thinning, and cleaning materials applied during a deviation on a controlled web coating/printing operation as if they were used on an uncontrolled web coating/printing operation for the time period of the deviation, as indicated in Equation 1 of § 63.4341. For the purposes of completing the compliance calculations specified in § 63.4341(f)(4), you must treat the dyeing and finishing materials applied during a deviation on a controlled dyeing/finishing operation as

if they were used on an uncontrolled dyeing/finishing operation for the time period of the deviation, as indicated in Equation 5 of § 63.4341.

(e) You must demonstrate continuous compliance with the work practice standards in § 63.4293. If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by § 63.4312(j)(8), this is a deviation from the work practice standards that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7).

(f) As part of each semiannual compliance report required in § 63.4311, you must identify the coating/printing and dyeing/finishing operation(s) for which you use the emission rate with add-on controls option. If there were no deviations from the applicable emission limit in Table 1 to this subpart, you must submit a statement that, as appropriate, the web coating/printing operations or the dyeing/finishing operations were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in Table 1 to this subpart, and you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293 during each compliance period.

(g) During periods of startup, shutdown, or malfunction of the emission capture system, add-on control device, or web coating/printing or dyeing/finishing operation that may affect emission capture or control device efficiency, you must operate in accordance with the startup, shutdown, and malfunction plan required by § 63.4300(c).

(h) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction of the emission capture system, add-on control device, or web coating/printing or dyeing/finishing operation that may affect emission capture or control device efficiency 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, or malfunction are violations according to the provisions in § 63.6(e).

(i) [Reserved]

(j) You must maintain records as specified in §§ 63.4312 and 63.4313.

### Compliance Requirements for the Organic HAP Overall Control Efficiency and Oxidizer Outlet Organic HAP Concentration Options

#### § 63.4350 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) *New and reconstructed affected sources.* For a new or reconstructed affected source, you must meet the requirements of paragraphs (a)(1) through (4) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in § 63.4283. Except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4351(d)(5), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§ 63.4360, 63.4361, and 63.4362, and establish the operating limits required by § 63.4292, within 180 days of the applicable compliance date specified in § 63.4283. For a solvent recovery system for which you conduct liquid-liquid material balances according to § 63.4351(d)(5), you must initiate the first material balance no later than the applicable compliance date specified in § 63.4283.

(2) You must develop and begin implementing the work practice plan required by § 63.4293 no later than the compliance date specified in § 63.4283.

(3) You must complete the compliance demonstration for the initial compliance period according to the requirements of § 63.4351. The initial compliance period begins on the applicable compliance date specified in § 63.4283 and ends on the last day of the first full month after the compliance date, or the date you conduct the performance tests of the emission capture systems and add-on control devices, or initiate the first liquid-liquid material balance for a solvent recovery system, whichever is later. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§ 63.4360, 63.4361, and 63.4362; results of liquid-liquid material balances conducted according to § 63.4351(d)(5); calculations according to § 63.4351 and supporting documentation showing that during the initial compliance period either the organic HAP overall control efficiency was equal to or greater than the applicable overall control efficiency limit in Table 1 to this subpart or the oxidizer outlet organic HAP concentration was no greater than 20 parts per million by weight (ppmw) on

a dry basis; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by § 63.4364; and documentation of whether you developed and implemented the work practice plan required by § 63.4293.

(4) You do not need to comply with the operating limits for the emission capture system and add-on control device required by § 63.4292 until after you have completed the performance tests specified in paragraph (a)(1) of this section. Instead, you must maintain a log detailing the operation and maintenance of the emission capture system, add-on control device, and continuous parameter monitors during the period between the compliance date and the performance test. You must begin complying with the operating limits for your affected source on the date you complete the performance tests specified in paragraph (a)(1) of this section. This requirement does not apply to solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements of § 63.4351(d)(5).

(b) *Existing sources.* For an existing affected source, you must meet the requirements of paragraphs (b)(1) through (3) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in § 63.4283. Except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4351(d)(5), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§ 63.4360, 63.4361, and 63.4362, and establish the operating limits required by § 63.4292, within 180 days of the compliance date specified in § 63.4283. For a solvent recovery system for which you conduct liquid-liquid material balances according to § 63.4351(d)(5), you must initiate the first material balance no later than the compliance date specified in § 63.4283.

(2) You must develop and begin implementing the work practice plan required by § 63.4293 no later than the compliance date specified in § 63.4283.

(3) You must complete the compliance demonstration for the initial compliance period according to the requirements of § 63.4351. The initial compliance period begins on the applicable compliance date specified in § 63.4283 and ends on the last day of the first full month after the compliance date. The initial compliance demonstration includes the results of emission capture system and add-on

control device performance tests conducted according to §§ 63.4360, 63.4361, and 63.4362; results of liquid-liquid material balances conducted according to § 63.4351(d)(5); calculations according to § 63.4351 and supporting documentation showing that during the initial compliance period the organic HAP overall control efficiency was equal to or greater than the applicable organic HAP overall control efficiency limit in Table 1 to this subpart or the oxidizer outlet organic HAP concentration was no greater than 20 ppmw on a dry basis and the efficiency of the capture system was 100 percent; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by § 63.4364; and documentation of whether you developed and implemented the work practice plan required by § 63.4293.

#### § 63.4351 How do I demonstrate initial compliance?

(a) You may use the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option for any individual web coating/printing operation, for any group of web coating/printing operations in the affected source, or for all of the web coating/printing operations in the affected source. You may include both controlled and uncontrolled web coating/printing operations in a group for which you use the organic HAP overall control efficiency option. You must use either the compliant material option, the emission rate without add-on controls option, or the emission rate with add-on controls option for any web coating/printing operation(s) in the affected source for which you do not use either the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option. To demonstrate initial compliance, any web coating/printing operation for which you use the organic HAP overall control efficiency option must meet the applicable organic HAP overall control efficiency limitations in Table 1 to this subpart according to the procedures in paragraph (d) of this section. Any web coating/printing operation for which you use the oxidizer outlet organic HAP concentration option must meet the 20 ppmw on a dry basis limit and achieve 100 percent capture efficiencies according to the procedures in paragraph (e) of this section. To demonstrate initial compliance with either option, you also must meet the applicable operating limits in § 63.4292 according to the procedures in paragraph (b) of this section and the

work practice standards in § 63.4293 according to the procedures in paragraph (c) of this section. When calculating the organic HAP overall control efficiency according to this section, do not include any coating, printing, thinning, or cleaning materials applied on web coating/printing operations for which you use the compliant material option, the emission rate without add-on controls option, the emission rate with add-on controls option, or the oxidizer outlet organic HAP concentration option. You do not need to redetermine the mass of organic HAP in coating, printing, thinning, or cleaning materials that have been reclaimed onsite and reused in web coating/printing operation(s) for which you use the organic HAP overall control efficiency option.

(b) *Compliance with operating limits.* Except as provided in § 63.4350(a)(4), and except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4351(d)(5), you must establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by § 63.4292, using the procedures specified in §§ 63.4363 and 63.4364.

(c) *Compliance with work practice requirements.* You must develop, implement, and document your implementation of the work practice plan required by § 63.4293 during the initial compliance period as specified in § 63.4312.

(d) *Compliance with organic HAP overall control efficiency limits.* You must follow the procedures in paragraphs (d)(1) through (7) of this section to demonstrate compliance with the applicable organic HAP overall control efficiency limit in Table 1 to this subpart.

(1) *Determine the mass fraction of organic HAP and mass of coating or printing materials.* Follow the procedures specified in § 63.4331(a)(1) and (3) to determine the mass fraction of organic HAP and mass of each coating, printing, thinning, and cleaning material applied during the compliance period.

(2) *Calculate the total mass of organic HAP emissions before add-on controls.* Using Equation 1 of § 63.4331, calculate the total mass of organic HAP emissions before add-on controls from all coating, printing, thinning, and cleaning materials applied during the compliance period minus the organic HAP in certain waste materials in the web coating/printing operation or group of web coating/printing operations for which you use the organic HAP overall control efficiency option.

(3) *Calculate the organic HAP emissions reductions for each controlled web coating/printing operation.* Determine the mass of organic HAP emissions reduced for each controlled web coating/printing operation during the compliance period. The emissions reductions determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in paragraph (d)(4) of this section to calculate the mass of organic HAP emissions reductions for each controlled web coating/printing operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. For each controlled web coating/printing operation using a solvent recovery system for which you conduct a liquid-liquid material balance, use the procedures in paragraph (d)(5) of this section to calculate the organic HAP emissions reductions.

(4) *Calculate the organic HAP emissions reductions for controlled web coating/printing operations not using liquid-liquid material balance.* For each controlled web coating/printing operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emissions reductions using Equation 1 of § 63.4341. The equation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the coating, printing, thinning, and cleaning materials applied in the web coating/printing operation served by the emission capture system and add-on control device during the compliance period. For any period of time a deviation specified in § 63.4352(c) or (d) occurs in the controlled web coating/printing operation, including a deviation during startup, shutdown, or malfunction, then you must assume zero efficiency for the emission capture system and add-on control device. Equation 1 of § 63.4341 treats the coating, printing, thinning, and cleaning materials applied during such a deviation as if they were applied on an uncontrolled web coating/printing operation for the time period of the deviation.

(i) Calculate the total mass of organic HAP in the coating and printing material(s) applied in the controlled web coating/printing operation during the compliance period, kg, using Equation 1A of § 63.4341.

(ii) Calculate the total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operation(s) during the compliance period, kg, using Equation 1B of § 63.4341.

(iii) Calculate the mass of organic HAP in the coating, printing, thinning, and cleaning materials applied in the controlled web coating/printing operation during deviations specified in § 63.4352(c) and (d), using Equation 1C of § 63.4341.

(5) *Calculate the organic HAP emissions reductions for controlled web coating/printing operations using liquid-liquid material balance.* For each controlled web coating/printing operation using a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emissions reductions by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coating, printing, thinning, and cleaning materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period. Perform a liquid-liquid material balance for the compliance period as specified in paragraphs (d)(5)(i) through (vi) of this section.

(i) For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system for the compliance period. The device must be initially certified by the manufacturer to be accurate to within  $\pm 2.0$  percent of the mass of volatile organic matter recovered.

(ii) For each solvent recovery system, determine the mass of volatile organic matter recovered for the compliance period, kg, based on measurement with the device required in paragraph (d)(5)(i) of this section.

(iii) Determine the mass fraction of volatile organic matter for each coating and printing material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg volatile organic matter per kg coating and printing material. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, appendix A, or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating or printing material. In the event of any inconsistency between information provided by the manufacturer or

supplier and the results of Method 24 of 40 CFR part 60, appendix A, or an approved alternative method, the test method results will govern.

(iv) Measure the mass of each coating, printing, thinning, and cleaning material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.

(v) For the compliance period, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency using Equation 2 of § 63.4341.

(vi) Calculate the mass of organic HAP emissions reductions for the web coating/printing operation controlled by the solvent recovery system during the

compliance period, using Equation 3 of § 63.4341.

(6) Calculate the organic HAP overall control efficiency. Determine the organic HAP overall control efficiency, kg organic HAP emissions reductions per kg organic HAP emissions before add-on controls during the compliance period, using Equation 1 of this section.

$$E_{\text{HAP}} = \frac{\sum_{i=1}^q (H_{\text{C},i}) + \sum_{j=1}^r (H_{\text{CSR},j})}{H_e} \times 100 \quad (\text{Eq. 1})$$

Where:

$E_{\text{HAP}}$  = Organic HAP overall control efficiency for the compliance period, kg organic HAP emissions reductions per kg organic HAP emissions before add-on controls during the compliance period.

$H_{\text{C},i}$  = Total mass of organic HAP emissions reductions for controlled web coating/printing operation,  $i$ , during the compliance period, kg, from Equation 1 of § 63.4341.

$H_{\text{CSR},j}$  = Total mass of organic HAP emissions reductions for controlled web coating/printing operation,  $j$ , during the compliance period, kg, from Equation 3 of § 63.4341.

$H_e$  = Total mass of organic HAP emissions before add-on controls from all the coating, printing, thinning, and cleaning materials applied during the compliance period, kg, determined according to paragraph (d)(2) of this section.

$q$  = Number of controlled web coating/printing operations except those controlled with a solvent recovery system.

$r$  = Number of web coating/printing operations controlled with a solvent recovery system.

(7) *Compliance demonstration.* To demonstrate initial compliance with the organic HAP overall control efficiency in Table 1 to this subpart, the organic HAP overall control efficiency calculated using Equation 1 of this section must be at least 98 percent for new or reconstructed affected sources and at least 97 percent for existing affected sources. You must keep all records as required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required by § 63.4310, you must identify the web coating/printing operation(s) for which you used the organic HAP overall control efficiency option and submit a statement that the web coating/printing operation(s) was (were) in compliance

with the emission limitations during the initial compliance period because the organic HAP overall control efficiency was greater than or equal to the applicable organic HAP overall control efficiency in Table 1 to this subpart, and you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293.

(e) *Compliance with oxidizer outlet organic HAP concentration limit.* You must follow the procedures in paragraphs (e)(1) through (3) of this section to demonstrate compliance with the oxidizer outlet organic HAP concentration limit of no greater than 20 ppmw on a dry basis.

(1) *Install and operate a PTE.* Install and operate a PTE around each work station and associated drying or curing oven in the web coating/printing operation. An enclosure that meets the requirements in § 63.4361(a) is considered a PTE. Route all organic HAP emissions from each PTE to an oxidizer.

(2) *Determine oxidizer outlet organic HAP concentration.* Determine oxidizer outlet organic HAP concentration through performance tests using the procedures in § 63.4362(a) and (b).

(3) *Compliance demonstration.* To demonstrate initial compliance with the oxidizer outlet organic HAP concentration limit in Table 1 to this subpart, the oxidizer outlet organic HAP concentration must be no greater than 20 ppmv on a dry basis and the efficiency of the capture system must be 100 percent. You must keep all records as required by §§ 63.4312 and 63.4313. As part of the Notification of Compliance Status required by § 63.4310, you must identify the web coating/printing operation(s) for which you used the oxidizer outlet organic HAP concentration option and submit a statement that the web coating/printing operation(s) was (were) in compliance

with the emission limitations during the initial compliance period because the oxidizer outlet organic HAP concentration was no greater than 20 ppmv on a dry basis, the efficiency of the capture system was 100 percent, and you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293.

**§ 63.4352 How do I demonstrate continuous compliance with the emission limitations?**

(a) You must meet all the requirements of this section to demonstrate continuous compliance with the organic HAP overall control efficiency. The organic HAP overall control efficiency for each compliance period, determined according to the procedures in § 63.4351(d), must be equal to or greater than the applicable organic HAP overall control efficiency limit in Table 1 to this subpart. Each month following the initial compliance period described in § 63.4350 is a compliance period. You must perform the calculations in § 63.4351(d) on a monthly basis. You must meet the applicable requirements of paragraphs (c) through (j) of this section to demonstrate continuous compliance with the oxidizer outlet organic HAP concentration limit.

(b) If the organic HAP overall control efficiency for any compliance period failed to meet the applicable organic HAP overall control efficiency in Table 1 to this subpart, this is a deviation from the emission limitation for that compliance period and must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7).

(c) You must demonstrate continuous compliance with each operating limit required by § 63.4292 that applies to you, as specified in Table 2 to this subpart.

(1) If an operating parameter is out of the allowed range specified in Table 2

to this subpart, this is a deviation from the operating limit that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7).

(2) If an operating parameter deviates from the operating limit specified in Table 2 to this subpart, then you must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation. For the purposes of completing the compliance calculations specified in § 63.4351(d)(4), you must treat the coating, printing, thinning, and cleaning materials applied during a deviation on a controlled web coating/printing operation as if they were applied on an uncontrolled web coating/printing operation for the time period of the deviation as indicated in Equation 1 of § 63.4341.

(d) You must meet the requirements for bypass lines in § 63.4364(b) for controlled web coating/printing operations for which you do not conduct liquid-liquid material balances. If any bypass line is opened and emissions are diverted to the atmosphere when the web coating/printing operation is running, this is a deviation that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7). For the purposes of completing the compliance calculations specified in § 63.4351(d)(4), you must treat the coating, printing, thinning, and cleaning materials applied during a deviation on a controlled web coating/printing operation as if they were applied on an uncontrolled web coating/printing operation for the time period of the deviation as indicated in Equation 1 of § 63.4341.

(e) You must demonstrate continuous compliance with the work practice standards in § 63.4293. If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by § 63.4312(j)(8), this is a deviation from the work practice standards that must be reported as specified in §§ 63.4310(c)(6) and 63.4311(a)(7).

(f) As part of each semiannual compliance report required in § 63.4311, you must identify the web coating/printing operation(s) for which you use the organic HAP overall control efficiency option or the oxidizer outlet organic HAP concentration option. If there were no deviations from the organic HAP overall control efficiency limitations, submit a statement that you were in compliance with the emission limitations during the reporting period because the organic HAP overall control efficiency for each compliance period was greater than or equal to the applicable organic HAP overall control

efficiency in Table 1 to this subpart, and you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293 during each compliance period. If there were no deviations from the oxidizer outlet organic HAP concentration limit, submit a statement that you were in compliance with the oxidizer outlet organic HAP concentration limit, the efficiency of the capture system is 100 percent, and you achieved the operating limits required by § 63.4292 and the work practice standards required by § 63.4293 during each compliance period.

(g) During periods of startup, shutdown, or malfunction of the emission capture system, add-on control device, or web coating/printing operation that may affect emission capture or control device efficiency, you must operate in accordance with the startup, shutdown, and malfunction plan required by § 63.4300(c).

(h) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction of the emission capture system, add-on control device, or web coating/printing operation that may affect emission capture or control device efficiency 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, or malfunction are violations according to the provisions in § 63.6(e).

(i) [Reserved]

(j) You must maintain records as specified in §§ 63.4312 and 63.4313.

#### **Performance Testing and Monitoring Requirements**

##### **§ 63.4360 What are the general requirements for performance tests?**

(a) You must conduct each performance test required by §§ 63.4340 or 63.4350 according to the requirements in § 63.7(e)(1) and under the conditions in this section, unless you obtain a waiver of the performance test according to the provisions in § 63.7(h).

(1) *Representative web coating/printing or dyeing/finishing operation operating conditions.* You must conduct the performance test under representative operating conditions for the web coating/printing or dyeing/finishing operation. Operations during periods of startup, shutdown, or malfunction and during periods of nonoperation do not constitute

representative conditions. You must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation.

(2) *Representative emission capture system and add-on control device operating conditions.* You must conduct the performance test when the emission capture system and add-on control device are operating at a representative flow rate, and the add-on control device is operating at a representative inlet concentration. You must record information that is necessary to document emission capture system and add-on control device operating conditions during the test and explain why the conditions represent normal operation.

(b) You must conduct each performance test of an emission capture system according to the requirements in § 63.4361. You must conduct each performance test of an add-on control device according to the requirements in § 63.4362.

##### **§ 63.4361 How do I determine the emission capture system efficiency?**

You must use the procedures and test methods in this section to determine capture efficiency as part of the performance test required by §§ 63.4340 or 63.4350.

(a) *Assuming 100 percent capture efficiency.* You may assume the capture system efficiency is 100 percent if both of the conditions in paragraphs (a)(1) and (2) of this section are met.

(1) The capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and directs all the exhaust gases from the enclosure to an add-on control device.

(2) All regulated materials applied in the web coating/printing or dyeing/finishing operation are applied within the capture system; regulated material solvent flash-off, curing, and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the web coating/printing operation surfaces they are applied to occurs within the capture system. For example, this criterion is not met if the web enters the open shop environment when moving between the application station and a curing oven.

(b) *Measuring capture efficiency.* If the capture system does not meet both of the criteria in paragraphs (a)(1) and (2) of this section, then you must use one of the three protocols described in paragraphs (c), (d), and (e) of this section to measure capture efficiency. The capture efficiency measurements use TVH capture efficiency as a

surrogate for organic HAP capture efficiency. For the protocols in paragraphs (c) and (d) of this section, the capture efficiency measurement must consist of three test runs. Each test run must be at least 3 hours duration or the length of a production run, up to 8 hours.

(c) *Liquid-to-uncaptured-gas protocol using a temporary total enclosure or building enclosure.* The liquid-to-uncaptured-gas protocol compares the mass of liquid TVH in regulated materials applied in the web coating/printing or dyeing/finishing operation to the mass of TVH emissions not captured by the emission capture system. Use a temporary total enclosure or a building enclosure and the procedures in paragraphs (c)(1) through (6) of this

section to measure emission capture system efficiency using the liquid-to-uncaptured-gas protocol.

(1) Either use a building enclosure or construct an enclosure around the web coating/printing or dyeing/finishing operation where regulated materials are applied, and all areas where emissions from these applied regulated materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the web coating/printing or dyeing/finishing operation where capture devices collect emissions for routing to an add-on control device, such as the entrance and exit areas of an oven or tenter frame, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in

Method 204 of appendix M to 40 CFR part 51.

(2) Use Method 204A or 204F of appendix M to 40 CFR part 51 to determine the mass fraction of TVH liquid input from each regulated material used in the web coating/printing or dyeing/finishing operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term volatile organic compounds (VOC) in the methods.

(3) Use Equation 1 of this section to calculate the total mass of TVH liquid input from all the regulated materials applied in the web coating/printing or dyeing/finishing operation during each capture efficiency test run.

$$\text{TVH}_{\text{applied}} = \sum_{i=1}^n (\text{TVH}_i) (M_i) \quad (\text{Eq. 1})$$

Where:

$\text{TVH}_{\text{applied}}$  = Mass of liquid TVH in regulated materials applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg.

$\text{TVH}_i$  = Mass fraction of TVH in regulated material,  $i$ , that is applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg TVH per kg material.

$M_i$  = Total mass of regulated material,  $i$ , applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg.

$n$  = Number of different regulated materials applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run.

(4) Use Method 204D or E of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) Use Method 204D if the enclosure is a temporary total enclosure.

(ii) Use Method 204E if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound-emitting operations inside the building enclosure, other than the web coating/printing or dyeing/finishing operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally.

(5) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 2 of this section:

$$\text{CE} = \frac{(\text{TVH}_{\text{applied}} - \text{TVH}_{\text{uncaptured}})}{\text{TVH}_{\text{applied}}} \times 100 \quad (\text{Eq. 2})$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

$\text{TVH}_{\text{applied}}$  = Total mass of TVH liquid input applied in the web coating/printing or dyeing/finishing operation during the capture efficiency test run, kg.

$\text{TVH}_{\text{uncaptured}}$  = Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

(6) Determine the capture efficiency of the emission capture system as the

average of the capture efficiencies measured in the three test runs.

(d) *Gas-to-gas protocol using a temporary total enclosure or a building enclosure.* The gas-to-gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. Use a temporary total enclosure or a building enclosure and the procedures in paragraphs (d)(1) through (5) of this section to measure emission capture system efficiency using the gas-to-gas protocol.

(1) Either use a building enclosure or construct an enclosure around the web coating/printing or dyeing/finishing operation where regulated materials are

applied, and all areas where emissions from these applied regulated materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the web coating/printing or dyeing/finishing operation where capture devices collect emissions generated by the web coating/printing or dyeing/finishing operation for routing to an add-on control device, such as the entrance and exit areas of an oven or a tenter frame, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of appendix M to 40 CFR part 51.

(2) Use Method 204B or 204C of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add-on control device. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) The sampling points for the Method 204B or 204C measurement must be upstream from the add-on control device and must represent total emissions routed from the capture system and entering the add-on control device.

(ii) If multiple emission streams from the capture system enter the add-on control device without a single common duct, then the emissions entering the add-on control device must be simultaneously measured in each duct and the total emissions entering the add-on control device must be determined.

(3) Use Method 204D or 204E of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute

TVH for each occurrence of the term VOC in the methods.

(i) Use Method 204D if the enclosure is a temporary total enclosure.

(ii) Use Method 204E if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound-emitting operations inside the building enclosure, other than the web coating/printing or dyeing/finishing operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally.

(4) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 3 of this section:

$$CE = \frac{TVH_{\text{captured}}}{(TVH_{\text{captured}} + TVH_{\text{uncaptured}})} \times 100 \quad (\text{Eq. 3})$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

TVH<sub>captured</sub> = Total mass of TVH captured by the emission capture system as measured at the inlet to the add-on control device during the emission capture efficiency test run, kg.

TVH<sub>uncaptured</sub> = Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

(5) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs.

(e) *Alternative capture efficiency protocol.* As an alternative to the procedures specified in paragraphs (c) and (d) of this section, you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in appendix A to subpart KK of this part.

**§ 63.4362 How do I determine the add-on control device emission destruction or removal efficiency?**

You must use the procedures and test methods in this section to determine the add-on control device emission destruction or removal efficiency as part of the performance test required by §§ 63.4340 and 63.4350. You must conduct three test runs as specified in § 63.7(e)(3) and each test run must last at least 1 hour.

(a) For all types of add-on control devices, use the test methods as specified in paragraphs (a)(1) through (5) of this section.

(1) Use Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, to select sampling sites and velocity traverse points.

(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 3, 3A, or 3B of appendix A to 40 CFR part 60, as appropriate, for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ANSI/ASME, PTC 19.10-1981, "Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]" (incorporated by reference, see § 63.14).

(4) Use Method 4 of appendix A to 40 CFR part 60 to determine stack gas moisture.

(5) Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run.

(b) Measure the volatile organic matter concentration as carbon at the inlet and outlet of the add-on control device simultaneously, using Method 25 or 25A of appendix A to 40 CFR part 60. If you are demonstrating compliance with the oxidizer outlet organic HAP concentration limit, only the outlet volatile organic matter concentration must be determined. The outlet volatile organic matter concentration is

determined as the average of the three test runs.

(1) Use Method 25 if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

(2) Use Method 25A if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet. Method 25A must be used to demonstrate compliance with the oxidizer outlet organic HAP concentration limit.

(3) Use Method 25A if the add-on control device is not an oxidizer.

(c) If two or more add-on control devices are used for the same emission stream, then you must measure emissions at the outlet to the atmosphere of each device. For example, if one add-on control device is a concentrator with an outlet to the atmosphere for the high-volume, dilute stream that has been treated by the concentrator, and a second add-on control device is an oxidizer with an outlet to the atmosphere for the low-volume, concentrated stream that is treated with the oxidizer, you must measure emissions at the outlet of the oxidizer and the high volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add-on control device, using Equation 1 of this section. If there is more than one inlet or outlet to the add-on control device, you must calculate the total gaseous organic mass flow rate using Equation 1 of this section for each

inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions:

$$M_f = Q_{sd} C_c [12] [0.0416] [10^{-6}] \quad (\text{Eq. 1})$$

Where:

$M_f$  = Total gaseous organic emissions mass flow rate, kg/hour (h).

$C_c$  = Concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, ppmv, dry basis.

$Q_{sd}$  = Volumetric flow rate of gases entering or exiting the add-on control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters/hour (dscm/h).

0.0416 = Conversion factor for molar volume, kg-moles per cubic meter (mole/m<sup>3</sup>) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(e) For each test run, determine the add-on control device organic emissions destruction or removal efficiency using Equation 2 of this section.

$$\text{DRE} = \frac{M_{fi} - M_{fo}}{M_{fi}} \quad (\text{Eq. 2})$$

Where:

DRE = Organic emissions destruction or removal efficiency of the add-on control device, percent.

$M_{fi}$  = Total gaseous organic emissions mass flow rate at the inlet(s) to the add-on control device, using Equation 1 of this section, kg/h.

$M_{fo}$  = Total gaseous organic emissions mass flow rate at the outlet(s) of the add-on control device, using Equation 1 of this section, kg/h.

(f) Determine the emission destruction or removal efficiency of the add-on control device as the average of the efficiencies determined in the three test runs and calculated in Equation 2 of this section.

**§ 63.4363 How do I establish the add-on control device operating limits during the performance test?**

During the performance test required by §§ 63.4340 or 63.4350 and described in §§ 63.4360, 63.4361, and 63.4362, you must establish the operating limits required by § 63.4292 according to this section, unless you have received approval for alternative monitoring and operating limits under § 63.8(f) as specified in § 63.4292.

(a) *Thermal oxidizers.* If your add-on control device is a thermal oxidizer, establish the operating limits according to paragraphs (a)(1) and (2) of this section.

(1) During the performance test, you must monitor and record the temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(2) Use the data collected during the performance test to calculate and record the average temperature maintained during the performance test. This average temperature is the minimum operating limit for your thermal oxidizer.

(b) *Catalytic oxidizers.* If your add-on control device is a catalytic oxidizer, establish the operating limits according to either paragraphs (b)(1) and (2) or paragraphs (b)(3) and (4) of this section.

(1) During the performance test, you must monitor and record the temperature at the inlet to the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average temperature at the inlet to the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer.

(3) As an alternative to monitoring the temperature difference across the catalyst bed, you may monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (b)(4) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer.

(4) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for which you elect to monitor according to paragraph (b)(3) of this section. The plan must address, at a minimum, the elements

specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) Annual sampling and analysis of the catalyst activity (*i.e.*, conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures.

(ii) Monthly inspection of the oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjust the equipment to assure proper air-to-fuel mixtures.

(iii) Annual internal and monthly external visual inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found, you must take corrective action consistent with the manufacturer's recommendations and conduct a new performance test to determine destruction efficiency according to § 63.4362.

**§ 63.4364 What are the requirements for CPMS installation, operation, and maintenance?**

(a) *General.* If you are using a control device to comply with the emission standards in § 63.4290, you must install, operate, and maintain each CPMS specified in paragraphs (c) and (d) and (e) of this section according to the requirements in paragraphs (a)(1) through (8) of this section. You must install, operate, and maintain each CPMS specified in paragraph (b) of this section according to paragraphs (a)(5) through (7) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four equally spaced successive cycles of CPMS operation to have a valid hour of data.

(2) You must have valid data from at least 90 percent of the hours during which the process operated.

(3) You must determine the hourly average of all recorded readings according to paragraphs (a)(3)(i) and (ii) of this section.

(i) To calculate a valid hourly value, you must have at least three of four equally spaced data values from that hour from a continuous monitoring system (CMS) that is not out-of-control.

(ii) Provided all of the readings recorded in accordance with paragraph (a)(3) of this section clearly demonstrate continuous compliance with the standard that applies to you, then you

are not required to determine the hourly average of all recorded readings.

(4) You must determine the rolling 3-hour average of all recorded readings for each operating period. To calculate the average for each 3-hour averaging period, you must have at least two of three of the hourly averages for that period using only average values that are based on valid data (*i.e.*, not from out-of-control periods).

(5) You must record the results of each inspection, calibration, and validation check of the CPMS.

(6) At all times, you must maintain the monitoring system in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(7) Except for monitoring malfunctions, associated repairs, or required quality assurance or control activities (including calibration checks or required zero and span adjustments), you must conduct all monitoring at all times that the unit is operating. Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used for purposes of calculating the emissions concentrations and percent reductions specified in Table 1 to this subpart. You must use all the valid data collected during all other periods in assessing compliance of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(8) Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation, and you must notify the Administrator in accordance with § 63.4311(a).

(b) *Capture system bypass line.* You must meet the requirements of paragraphs (a)(5) through (6) and (b)(1) and (2) of this section for each emission capture system that contains bypass lines that could divert emissions away from the add-on control device to the atmosphere.

(1) You must monitor or secure the valve or closure mechanism controlling the bypass line in a nondiverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism must meet one of the

requirements specified in paragraphs (b)(1)(i) through (iv) of this section.

(i) *Flow control position indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. The time of occurrence and flow control position must be recorded, as well as every time the flow direction is changed. The flow control position indicator must be installed at the entrance to any bypass line that could divert the emissions away from the add-on control device to the atmosphere.

(ii) *Car-seal or lock-and-key valve closures.* Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. You must visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add-on control device to the atmosphere.

(iii) *Valve closure continuous monitoring.* Ensure that any bypass line valve is in the closed (non-diverting) position through monitoring of valve position at least once every 15 minutes. You must inspect the monitoring system at least once every month to verify that the monitor will indicate valve position.

(iv) *Automatic shutdown system.* Use an automatic shutdown system in which the web coating/printing or dyeing/finishing operation is stopped when flow is diverted by the bypass line away from the add-on control device to the atmosphere when the web coating/printing or dyeing/finishing operation is running. You must inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shutdown the web coating/printing or dyeing/finishing operation.

(2) If any bypass line is opened, you must include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in § 63.4311.

(c) *Oxidizers.* If you are using an oxidizer to comply with the emission standards, you must comply with paragraphs (c)(i) through (iii) of this section.

(i) Install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart

recorder, data logger, or temperature indicator must be replaced.

(ii) For an oxidizer other than a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Celsius, or  $\pm 1^\circ$  Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone.

(iii) For a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature with an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Celsius or  $\pm 1$  degree Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the vent stream at the nearest feasible point to the inlet and outlet of the catalyst bed. Calculate the temperature rise across the catalyst.

(d) *Other types of control devices.* If you use a control device other than an oxidizer or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of an alternative monitoring method under § 63.8(f).

(e) *Capture system monitoring.* If you are complying with the emission standards in § 63.4290 through the use of a capture system and control device, you must develop a site-specific monitoring plan containing the information specified in paragraphs (e)(1) and (2) of this section for these capture systems. You must monitor the capture system in accordance with paragraph (e)(3) of this section. You must make the monitoring plan available for inspection by the permitting authority upon request.

(1) The monitoring plan must:

(i) Identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test is maintained; and

(ii) Explain why this parameter is appropriate for demonstrating ongoing compliance; and

(iii) Identify the specific monitoring procedures.

(2) The monitoring plan must specify the operating parameter value or range of values that demonstrate compliance with the emission standards in § 63.4290. The specified operating parameter value or range of values must represent the conditions present when

the capture system is being properly operated and maintained.

(3) You must conduct all capture system monitoring in accordance with the plan.

(4) Any deviation from the operating parameter value or range of values which are monitored according to the plan will be considered a deviation from the operating limit.

(5) You must review and update the capture system monitoring plan at least annually.

#### Other Requirements and Information

##### § 63.4370 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA), has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of 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 subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.

(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 work practice standards in § 63.4293 under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

##### § 63.4371 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:

*Add-on control* means an air pollution control device, such as a thermal oxidizer or carbon adsorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

*As-applied* means the condition of a coating at the time of application to a substrate, including any added solvent.

*As purchased* means the condition of a coating, printing, slashing, dyeing, or finishing material as delivered to the affected source, before alteration.

*Capture device* means a hood, enclosure, room, floor sweep, or other means of containing or collecting emissions and directing those emissions into an add-on air pollution control device.

*Capture efficiency* means the portion (expressed as a percentage) of the pollutants from an emission source that is delivered to an add-on control device.

*Capture system* means one or more capture devices intended to collect emissions generated by a web coating/printing or dyeing/finishing operation in the use of regulated materials, both at the point of application and at subsequent points where emissions from the regulated materials occur, such as flashoff, drying, or curing. As used in this subpart, multiple capture devices that collect emissions generated by a web coating/printing or dyeing/finishing operation are considered a single capture system.

*Cleaning material* means a solvent used to remove contaminants and other materials, such as dirt, grease, or oil, from a textile before a web coating/printing operation (surface preparation) or from equipment associated with the web coating/printing operation, such as tanks, rollers, rotary screens, and knife or wiper blades. Thus, it includes any cleaning material used in the web coating and printing subcategory for surface preparation of substrates or process operation equipment cleaning or both with the exception of cleaning material applied to the substrate using handheld, non-refillable aerosol containers.

*Coating* means the application of a semi-liquid coating material to one or both sides of a textile web substrate. Once the coating material is dried (and cured, if necessary), it bonds with the textile to form a continuous solid film for decorative, protective, or functional purposes. Coating does not include finishing where the fiber is impregnated with a chemical or resin to impart certain properties, but a solid film is not formed.

*Coating material* means an elastomer, polymer, or prepolymer material applied as a thin layer to a textile web. Such materials include, but are not limited to, coatings, sealants, inks, and adhesives. Decorative, protective, or functional materials that consist only of acids, bases, or any combination of these substances are not considered coating material for the purposes of this subpart. Thinning materials also are not included in this definition of coating

materials, but are accounted for separately.

*Coating operation* means equipment used to apply cleaning materials to a web substrate to prepare it for coating material application (surface preparation), to apply coating material to a web substrate (coating application) and to dry or cure the coating material after application by exposure to heat or radiation (coating drying or curing), or to clean coating operation equipment (equipment cleaning). A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a coating or cleaning material is applied and all subsequent points in the affected source where organic HAP emissions from that coating or cleaning material occur. There may be multiple coating operations in an affected source. Coating material application with handheld, non-refillable aerosol containers, touch-up markers, or marking pens is not a coating operation for the purposes of this subpart. Polyurethane foam carpet backing operations are not coating operations for the purposes of this subpart.

*Container* means any portable device in which a material is stored, conveyed, treated, disposed of, or otherwise handled.

*Continuous parameter monitoring system* means the total equipment that may be required to meet the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze, and provide a record of coating or printing operation, or capture system, or add-on control device parameters.

*Controlled web coating/printing or dyeing/finishing operation* means a web coating/printing or dyeing/finishing operation from which some or all of the organic HAP emissions are routed through an emission capture system and add-on control device.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limit, or operating limit, or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limit, or operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of

whether or not such failure is permitted by this subpart.

*Dyeing* means the process of applying color to the whole body of a textile substrate with either natural or synthetic dyes. Dyes are applied to yarn, fiber, cord, or fabric in aqueous solutions and dried before or after finishing, depending on the process. Continuous dyeing processes include, but are not limited to thermosol, pad/steam, pad/dry, and rope range dyeing. Batch dyeing processes include, but are not limited to, jet, beck, stock, yarn, kier, beam, pad, package and skein dyeing.

*Dyeing materials* means the purchased dyes and dyeing auxiliaries that are used in the dyeing process. The dyes are the substances that add color to textiles through incorporation into the fiber by chemical reaction, absorption or dispersion. Dyeing auxiliaries are various substances that can be added to the dyebath to aid dyeing. Dyeing auxiliaries may be necessary to transfer the dye from the dyebath to the fiber or they may provide improvements in the dyeing process or characteristics of the dyed fiber.

*Dyeing operation* means the collection of equipment used to dye a textile substrate and includes equipment used for dye application, dye fixation, and textile substrate rinsing and drying. A single dyeing operation may include any combination of these types of equipment, but always includes at least the point at which a dyeing material is applied and all subsequent points in the affected source where organic HAP emissions from that dyeing material occur. There may be multiple dyeing operations in an affected source. Dyeing material application with handheld, non-refillable aerosol containers, touch-up markers, brushes, or marking pens is not a dyeing operation for the purposes of this subpart.

*Emission limitation* means an emission limit, operating limit, or work practice standard.

*Enclosure* means a structure that surrounds a source of emissions and captures and directs the emissions to an add-on control device.

*Fabric* means any woven, knitted, plaited, braided, felted, or non-woven material made of filaments, fibers, or yarns including thread. This term includes material made of fiberglass, natural fibers, synthetic fibers, or composite.

*Finishing* means the chemical treatment of a textile (e.g., with resins, softeners, stain resist or soil release agents, water repellants, flame retardants, antistatic agents, or hand builders) that improves the appearance

and/or usefulness of the textile substrate.

*Finishing materials* means the purchased substances (including auxiliaries added to the finish to improve the finishing process or the characteristics of the finished textile) that are applied individually or as mixtures to textile substrates to impart desired properties.

*Finishing operations* means the collection of equipment used to finish a textile substrate including chemical finish applicator(s), flashoff area(s) and drying or curing oven(s).

*Laminated fabric* means fabric composed of a high-strength reinforcing base fabric between two plies of flexible thermoplastic film. Two or more fabrics or textiles or a fabric and a paper substrate may be bonded with an adhesive to form a laminate. The bonding of a fabric substrate to paper is not subject to the requirements of this subpart.

*Manufacturer's formulation data* means data on a material (such as a coating, printing, slashing, dyeing and finishing) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material. Manufacturer's formulation data may include, but are not limited to, information on density, organic HAP content, and coating, printing, dyeing, slashing, finishing, thinning, or cleaning material content.

*Mass fraction of organic HAP* means the ratio of the mass of organic HAP to the mass of a material in which it is contained; kg of organic HAP per kg of material.

*Month* means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

*No organic HAP* means no organic HAP is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. The organic HAP content of a regulated material is determined according to § 63.4321(e)(1).

*Operating scenario* means for a dyeing/finishing process operation or group of process operations, the combination of operating conditions (including but not limited to, type of substrate, type and mass fraction of organic HAP in dyeing/finishing materials applied, and the process operation temperature and pressure) affecting the fraction of organic HAP applied in dyeing and finishing operations discharged to wastewater.

For example, a dyeing process operation run at atmospheric pressure would be a different operating scenario from the same dyeing process operation run under pressure.

*Organic HAP content* means the mass of organic HAP per mass of solids for a coating or printing material calculated using Equation 1 of § 63.4321. The organic HAP content is determined for the coating or printing material as purchased.

*Organic HAP overall control efficiency* means the total efficiency of a control system, determined either by:

(1) The product of the capture efficiency as determined in accordance with the requirements of § 63.4361 and the control device organic emissions destruction or removal efficiency determined in accordance with the requirements of § 63.4362; or

(2) A liquid-liquid material balance in accordance with the requirements of § 63.4341(e)(5) or (f)(5) or § 63.4351(d)(5).

*Permanent total enclosure (PTE)* means a permanently installed enclosure that meets the criteria of Method 204 of appendix M, 40 CFR part 51, for a PTE and that directs all the exhaust gases from the enclosure to an add-on control device.

*Point of determination* means each point where process wastewater exits the dyeing/finishing process unit.

*Printing* means the application of color and patterns to textiles, usually in the form of a paste, using a variety of techniques including, but not limited to roller, rotary screen, and ink jet printing. After application of the printing material, the textile usually is treated with steam, heat, or chemicals to fix the color.

*Printing material* means the purchased substances, usually including gums or thickeners, dyes and appropriate chemicals such as defoamers and resins that are mixed to produce the print pastes applied to textile substrates as patterns and colors.

*Printing operation* means equipment used to apply cleaning materials to a web substrate to prepare it for printing material application (surface preparation), to apply printing material to one or both sides of a web substrate (printing application) and to dry or cure the printing material after application by exposure to heat or radiation (printing material drying or curing), or to clean printing operation equipment (equipment cleaning). A single printing operation may include any combination of these types of equipment, but always includes at least the point at which a printing or cleaning material is applied and all subsequent points in the affected

source where organic HAP emissions from that printing or cleaning material occur. There may be multiple printing operations in an affected source.

*Publically owned treatment works or POTW* means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by section 502(4) of the CWA). This definition includes sewers, pipes or other conveyances only if they convey wastewater to a POTW providing treatment.

*Regulated materials* means the organic-containing materials that are used in the three printing, coating, and dyeing subcategories defined in § 63.4281(a). Organic-HAP containing regulated materials are the source of the organic HAP emissions limited by the requirements of this subpart. The specific regulated materials for each subcategory are defined in § 63.4282.

*Research or laboratory operation* means an operation whose primary purpose is for research and development of new processes and products that is conducted under the close supervision of technically trained personnel and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a *de minimis* manner.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Slashing* means the application of a chemical sizing solution to warp yarns prior to weaving to protect against snagging or abrasion that could occur during weaving.

*Slashing materials*, also known as sizing, means the purchased compounds that are applied to warp yarns prior to weaving. Starch, gelatin, oil, wax, and manufactured polymers such as polyvinyl alcohol, polystyrene, polyacrylic acid and polyacetates are used as sizing compounds.

*Slashing operation* means the equipment used to mix and prepare size for application and the slasher, which is the equipment used to apply and dry size on warp yarn.

*Solids* means the nonvolatile portion of the coating and printing materials that makes up the dry film on a coated substrate and the pattern or color on a printed substrate.

*Startup, initial* means the first time equipment is brought online in a facility.

*Surface preparation* means chemical treatment of part or all of a substrate to prepare it for coating or printing material application.

*Temporary total enclosure* means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 of appendix M, 40 CFR part 51.

*Textile* means any one of the following:

- (1) Staple fibers and filaments suitable for conversion to or use as yarns, or for the preparation of woven, knit, or nonwoven fabrics;
- (2) Yarns made from natural or manufactured fibers;
- (3) Fabrics and other manufactured products made from staple fibers and filaments and from yarn; and
- (4) Garments and other articles fabricated from fibers, yarns, or fabrics.

*Thinning material* means an organic solvent that is added to a coating or printing material after the coating or printing material is received from the supplier.

*Total volatile hydrocarbon (TVH)* means the total amount of nonaqueous volatile organic material determined according to Methods 204A through 204C of appendix M to 40 CFR part 51 and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non-VOC.

*Uncontrolled web coating/printing or dyeing/finishing operation* means acoating/printing or dyeing/finishing operation from which none of the organic HAP emissions are routed through an emission capture system and add-on control device.

*Volatile organic compounds (VOC)* means any compounds defined as VOC in 40 CFR 51.100(s).

*Wastewater* means water that is generated in a web coating, web printing, slashing, dyeing or finishing operation and is collected, stored, or treated prior to being discarded or discharged.

*Web* means a continuous textile substrate which is flexible enough to be wound or unwound as rolls.

**Tables to Subpart OOOO of Part 63**

If you are required to comply with emission limitations in accordance with §§ 63.4290 and 63.4291, you must comply with the applicable emission limits in the following table:

**TABLE 1 TO SUBPART OOOO OF PART 63.—EMISSION LIMITS FOR NEW OR RECONSTRUCTED AND EXISTING AFFECTED SOURCES IN THE PRINTING, COATING AND DYEING OF FABRICS AND OTHER TEXTILES SOURCE CATEGORY**

If your affected source is a . . .	And it conducts . . .	Then this is the organic HAP emission limit for each compliance period . . .
1. New or reconstructed coating and printing affected source.	Coating operations only, or Printing operations only, or Both coating and printing operations.	You may choose any one of the following limits: Reduce organic HAP emissions to the atmosphere by achieving at least a 98 percent organic HAP overall control efficiency; Limit organic HAP emissions to the atmosphere to no more than 0.08 kg of organic HAP per kg of solids applied; or If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis is achieved and the efficiency of the capture system is 100 percent.

TABLE 1 TO SUBPART OOOO OF PART 63.—EMISSION LIMITS FOR NEW OR RECONSTRUCTED AND EXISTING AFFECTED SOURCES IN THE PRINTING, COATING AND DYEING OF FABRICS AND OTHER TEXTILES SOURCE CATEGORY—Continued

If your affected source is a . . .	And it conducts . . .	Then this is the organic HAP emission limit for each compliance period . . .
2. Existing coating and printing affected source	Coating operations only, or Printing operations only, or Both coating and printing operations.	You may choose any one of the following limits: Reduce organic HAP emissions to the atmosphere by achieving at least a 97 percent organic HAP overall control efficiency; Limit organic HAP emissions to the atmosphere to no more than 0.12 kg of organic HAP per kg of solids applied; or If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis is achieved and the efficiency of the capture system is 100 percent.
3. New, reconstructed or existing dyeing finishing affected source.	a. Dyeing operations only .....	You must limit organic HAP emissions to the atmosphere to no more than 0.016 kg of organic HAP per kg of dyeing materials applied.
	b. Finishing operations only .....	You must limit organic HAP emissions to the atmosphere to no more than 0.0003 kg of organic HAP per kg of finishing materials applied.
	c. Both dyeing and finishing operations .....	You must limit organic HAP emissions to the atmosphere to no more than 0.016 kg of organic HAP per kg of dyeing and finishing materials applied.
4. New, reconstructed or existing slashing affected source.	Slashing operations only .....	You must limit organic HAP emissions to the atmosphere to no more than zero kg organic HAP per kg of slashing materials as determined according to § 63.4321(e)(1)(iv) of this subpart.

If you are required to comply with the operating limits by § 63.4292, you must comply with the applicable operating limits in the following table:

TABLE 2 TO SUBPART OOOO OF PART 63.—OPERATING LIMITS IF USING ADD-ON CONTROL DEVICES AND CAPTURE SYSTEM

For the following device . . .	You must meet the following operating limit . . .	And you must demonstrate continuous compliance with the operating limit by . . .
1. Thermal oxidizer .....	a. The average temperature in any 3-hour block period must not fall below the temperature limit established according to § 63.4363(a)	i. Collecting the temperature data according to § 63.4364(c); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour block average temperature at or above the temperature limit.
2. Catalytic oxidizer .....	a. The average temperature measured at the inlet to the catalyst bed in any 3-hour block period must not fall below the limit established according to § 63.4363(b); and either	i. Collecting the temperature data according to § 63.4364(c); ii. reducing the data to 3-hour block averages; and iii. maintaining the 3-hour block average catalyst bed inlet temperature at or above temperature limit.
	b. Ensure that the average temperature difference across the catalyst bed in any 3-hour block period does not fall below the temperature difference limit established according to § 63.4363(b)(2); or	Collecting the temperature data according to § 63.4364(c), reducing the data to 3-hour block averages, and maintaining the 3-hour block average temperature difference at or above the temperature difference limit.

TABLE 2 TO SUBPART OOOO OF PART 63.—OPERATING LIMITS IF USING ADD-ON CONTROL DEVICES AND CAPTURE SYSTEM—Continued

For the following device . . .	You must meet the following operating limit . . .	And you must demonstrate continuous compliance with the operating limit by . . .
	c. Develop and implement an inspection and maintenance plan according to § 63.4363(b)(4).	Maintaining an up-to-date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by § 63.4363(b)(4), you must take corrective action as soon as practicable consistent with the manufacturer's recommendations.
3. Emission capture system .....	Submit monitoring plan to the Administrator that identifies operating parameters to be monitored according to § 63.4364(e).	Conduct monitoring according to the plan (§ 63.4364(e)(3)).

You must comply with the applicable General Provisions requirements according to the following table:

TABLE 3 TO SUBPART OOOO OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART OOOO

Citation	Subject	Applicable to subpart OOOO	Explanation
§ 63.1(a)(1)–(12) .....	General Applicability .....	Yes.	
§ 63.1(b)(1)–(3) .....	Initial Applicability Determination .....	Yes .....	Applicability to subpart OOOO is also specified in § 63.4281.
§ 63.1(c)(1) .....	Applicability After Standard Established .....	Yes.	
§ 63.1(c)(2)–(3) .....	Applicability of Permit Program for Area Sources.	No .....	Area sources are not subject to subpart OOOO.
§ 63.1(c)(4)–(5) .....	Extensions and Notifications .....	Yes.	
§ 63.1(e) .....	Applicability of Permit Program Before Relevant Standard is Set.	Yes.	
§ 63.2 .....	Definitions .....	Yes .....	Additional definitions are specified in § 63.4371.
§ 63.3(a)–(c) .....	Units and Abbreviations .....	Yes.	
§ 63.4(a)(1)–(5) .....	Prohibited Activities .....	Yes.	
§ 63.4(b)–(c) .....	Circumvention/Severability .....	Yes.	
§ 63.5(a) .....	Construction/Reconstruction .....	Yes.	
§ 63.5(b)(1)–(6) .....	Requirements for Existing, Newly Constructed, and Reconstructed Sources.	Yes.	
§ 63.5(d) .....	Application for Approval of Construction/Reconstruction.	Yes.	
§ 63.5(e) .....	Approval of Construction/Reconstruction .....	Yes.	
§ 63.5(f) .....	Approval of Construction/Reconstruction Based on Prior State Review.	Yes.	
§ 63.6(a) .....	Compliance With Standards and Maintenance Requirements—Applicability.	Yes.	
§ 63.6(b)(1)–(7) .....	Compliance Dates for New and Reconstructed Sources.	Yes .....	Section 63.4283 specifies the compliance dates.

TABLE 3 TO SUBPART OOOO OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART OOOO—Continued

Citation	Subject	Applicable to subpart OOOO	Explanation
§ 63.6(c)(1)–(5) .....	Compliance Dates for Existing Sources .....	Yes .....	Section 63.4283 specifies the compliance dates.
§ 63.6(e)(1)–(2) .....	Operation and Maintenance .....	Yes.	
§ 63.6(e)(3) .....	Startup, Shutdown, and Malfunction Plan .....	Yes .....	Only sources using an add-on control device to comply with the standards must complete startup, shutdown, and malfunction plans.
§ 63.6(f)(1) .....	Compliance Except During Startup, Shutdown, and Malfunction.	Yes .....	Applies only to sources using an add-on control device to comply with the standards.
§ 63.6(f)(2)–(3) .....	Methods for Determining Compliance .....	Yes.	
§ 63.6(g)(1)–(3) .....	Use of an Alternative Standard .....	Yes.	
§ 63.6(h) .....	Compliance With Opacity/Visible Emission Standards.	No .....	Subpart OOOO does not establish opacity standards and does not require continuous opacity monitoring systems (COMS).
§ 63.6(i)(1)–(16) .....	Extension of Compliance .....	Yes.	
§ 63.6(j) .....	Presidential Compliance Exemption .....	Yes.	
§ 63.7(a)(1) .....	Performance Test Requirements—Applicability	Yes .....	Applies to all affected sources. Additional requirements for performance testing are specified in §§ 63.4360, 63.4361, and 63.4362.
§ 63.7(a)(2) .....	Performance Test Requirements—Dates .....	Yes .....	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standard.
§ 63.7(a)(3) .....	Performance Tests Required by the Administrator.	Yes.	
§ 63.7(b)–(e) .....	Performance Test Requirements—Notification, Quality Assurance, Facilities Necessary for Safe Testing, Conditions During Test.	Yes .....	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standard.
§ 63.7(f) .....	Performance Test Requirements—Use of Alternative Test Method.	Yes .....	Applies to all test methods except those used to determine capture system efficiency.
§ 63.7(g)–(h) .....	Performance Test Requirements—Data Analysis, Recordkeeping, Waiver of Test.	Yes .....	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standards.
§ 63.8(a)(1)–(3) .....	Monitoring Requirements—Applicability .....	Yes .....	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standards. Additional requirements for monitoring are specified in § 63.4364.
§ 63.8(a)(4) .....	Additional Monitoring Requirements .....	No .....	Subpart OOOO does not have monitoring requirements for flares.
§ 63.8(b) .....	Conduct of Monitoring .....	Yes.	
§ 63.8(c)(1)–(3) .....	Continuous Monitoring Systems (CMS) Operation and Maintenance.	Yes .....	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standards. Additional requirements for CMS operations and maintenance are specified in § 63.4364.
§ 63.8(c)(4) .....	CMS .....	No .....	Section 63.4364 specifies the requirements for the operation of CMS for capture systems and add-on control devices at sources using these to comply.

TABLE 3 TO SUBPART OOOO OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART OOOO—Continued

Citation	Subject	Applicable to subpart OOOO	Explanation
§ 63.8(c)(5) .....	COMS .....	No .....	Subpart OOOO does not have opacity or visible emission standards.
§ 63.8(c)(6) .....	CMS Requirements .....	No .....	Section 63.4364 specifies the requirements for monitoring systems for capture systems and add-on control devices at sources using these to comply.
§ 63.8(c)(7)–(8) .....	CMS Out of Control Periods and Reporting .....	Yes.	
§ 63.8(d)–(e) .....	Quality Control Program and CMS Performance Evaluation.	No .....	Subpart OOOO does not require the use of continuous emissions monitoring systems.
§ 63.8(f)(1)–(5) .....	Use of an Alternative Monitoring Method .....	Yes.	
§ 63.8(f)(6) .....	Alternative to Relative Accuracy Test .....	No .....	Subpart OOOO does not require the use of continuous emissions monitoring systems.
§ 63.8(g)(1)–(5) .....	Data Reduction .....	No .....	Sections 63.4342 and 63.4352 specify monitoring data reduction.
§ 63.9(a) .....	Applicability and General Information .....	Yes.	
§ 63.9(b) .....	Initial Notifications .....	No .....	Subpart OOOO provides 1 year for an existing source to submit an initial notification.
§ 63.9(c) .....	Request for Extension of Compliance .....	Yes.	
§ 63.9(d) .....	Notification that Source is Subject to Special Compliance Requirements.	Yes.	
§ 63.9(e) .....	Notification of Performance Test .....	Yes .....	Applies only to capture system and add-on control device performance tests at sources using these to comply with the standards.
§ 63.9(f) .....	Notification of Visible Emissions/Opacity Test ...	No .....	Subpart OOOO does not have opacity or visible emission standards.
§ 63.9(g)(1)–(3) .....	Additional Notifications When Using CMS .....	No .....	Subpart OOOO does not require the use of continuous emissions monitoring systems.
§ 63.9(h) .....	Notification of Compliance Status .....	Yes .....	Section 63.4310 specifies the dates for submitting the notification of compliance status.
§ 63.9(i) .....	Adjustment of Submittal Deadlines .....	Yes.	
§ 63.9(j) .....	Change in Previous Information .....	Yes.	
§ 63.10(a) .....	Recordkeeping/Reporting—Applicability and General Information	Yes.	
§ 63.10(b)(1) .....	General Recordkeeping Requirements .....	Yes .....	Additional Requirements are specified in §§ 63.4312 and 63.4313.
§ 63.10(b)(2)(i)–(v) .....	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods and CMS.	Yes .....	Requirements for Startup, Shutdown, and Malfunction records only apply to add-on control devices used to comply with the standards.
§ 63.10(b)(2)(vi)–(xi) .....	.....	Yes.	
§ 63.10(b)(2)(xii) .....	Records .....	Yes.	
§ 63.10(b)(2)(xiii) .....	.....	No .....	Subpart OOOO does not require the use of continuous emissions monitoring systems.
§ 63.10(b)(2)(xiv) .....	.....	Yes.	
§ 63.10(b)(3) .....	Recordkeeping Requirements for Applicability Determinations.	Yes.	

TABLE 3 TO SUBPART OOOO OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART OOOO—Continued

Citation	Subject	Applicable to subpart OOOO	Explanation
§ 63.10(c)(1)–(6) .....	Additional Recordkeeping Requirements for Sources with CMS.	Yes.	
§ 63.10(c)(7)–(8) .....	.....	No .....	The same records are required in § 63.4311(a)(7).
§ 63.10(c)(9)–(15) .....	.....	Yes.	
§ 63.10(d)(1) .....	General Reporting Requirements .....	Yes .....	Additional requirements are specified in § 63.4311.
§ 63.10(d)(2) .....	Report of Performance Test Results .....	Yes .....	Additional requirements are specified in § 63.4311(b).
§ 63.10(d)(3) .....	Reporting Opacity or Visible Emissions Observations.	No .....	Subpart OOOO does not require opacity or visible emissions observations.
§ 63.10(d)(4) .....	Progress Reports for Sources With Compliance Extensions.	Yes.	
§ 63.10(d)(5) .....	Startup, Shutdown, and Malfunction Reports ....	Yes .....	Applies only to add-on control devices at sources using these to comply with the standards.
§ 63.10(e)(1)–(2) .....	Additional CMS Reports .....	No .....	Subpart OOOO does not require the use of continuous emissions monitoring systems.
§ 63.10(e)(3) .....	Excess Emissions/CMS Performance Reports ..	No .....	Section 63.4311(a) specifies the contents of periodic compliance reports.
§ 63.10(e)(4) .....	COMS Data Reports .....	No .....	Subpart OOOO does not specify requirements for opacity or COMS.
§ 63.10(f) .....	Recordkeeping/Reporting Waiver .....	Yes.	
§ 63.11 .....	Control Device Requirements/Flares .....	No .....	Subpart OOOO does not specify use of flares for compliance.
§ 63.12 .....	State Authority and Delegations .....	Yes.	
§ 63.13 .....	Addresses .....	Yes.	
§ 63.14 .....	Incorporation by Reference .....	Yes .....	ASNI/ASME PTC 19.10–1981, Part 10
§ 63.15 .....	Availability of Information/Confidentiality .....	Yes.	

You may use the mass fraction values for which you do not have test data or in the following table for solvent blends manufacturer’s formulation data.

TABLE 4 TO SUBPART OOOO OF PART 63.—DEFAULT ORGANIC HAP MASS FRACTION FOR SOLVENTS AND SOLVENT BLENDS

Solvent/solvent blend	CAS. No.	Average organic HAP mass fraction	Typical organic HAP, percent by mass
1. Toluene .....	108–88–3	1.0	Toluene.
2. Xylene(s) .....	1330–20–7	1.0	Xylenes, ethylbenzene.
3. Hexane .....	110–54–3	0.5	n-hexane.
4. n-Hexane .....	110–54–3	1.0	n-hexane.
5. Ethylbenzene .....	100–41–4	1.0	Ethylbenzene.
6. Aliphatic 140 .....	.....	0	None.
7. Aromatic 100 .....	.....	0.02	1% xylene, 1% cumene.
8. Aromatic 150 .....	.....	0.09	Naphthalene.
9. Aromatic naphta .....	64742–95–6	0.02	1% xylene, 1% cumene.
10. Aromatic solvent .....	64742–94–5	0.1	Naphthalene.
11. Exempt mineral spirits .....	8032–32–4	0	None.
12. Ligroines (VM & P) .....	8032–32–4	0	None.
13. Lactol spirits .....	64742–89–6	0.15	Toluene.

TABLE 4 TO SUBPART OOOO OF PART 63.—DEFAULT ORGANIC HAP MASS FRACTION FOR SOLVENTS AND SOLVENT BLENDS—Continued

Solvent/solvent blend	CAS. No.	Average organic HAP mass fraction	Typical organic HAP, percent by mass
14. Low aromatic white spirit .....	64742-82-1	0	None.
15. Mineral spirits .....	64742-88-7	0.01	Xylenes.
16. Hydrotreated naphtha .....	64742-48-9	0	None.
17. Hydrotreated light distillate .....	64742-47-8	0.001	Toluene.
18. Stoddard solvent .....	8052-41-3	0.01	Xylenes.
19. Super high-flash naphtha .....	64742-95-6	0.05	Xylenes.
20. Varsol® solvent .....	8052-49-3	0.01	0.5% xylenes, 0.5% ethylbenzene.
21. VM & P naphtha .....	64742-89-8	0.06	3% toluene, 3% xylene.
22. Petroleum distillate mixture .....	68477-31-6	0.08	4% naphthalene, 4% biphenyl.

You may use the mass fraction values for which you do not have test data or in the following table for solvent blends manufacturer's formulation data:

TABLE 5 TO SUBPART OOOO OF PART 63.—DEFAULT ORGANIC HAP MASS FRACTION FOR PETROLEUM SOLVENT GROUPS<sup>a</sup>

Solvent type	Average organic HAP mass fraction	Typical organic HAP, percent by mass
Aliphatic <sup>b</sup> .....	0.03	1% Xylene, 1% Toluene, and 1% Ethylbenzene.
Aromatic <sup>c</sup> .....	0.06	4% Xylene, 1% Toluene, and 1% Ethylbenzene.

<sup>a</sup> Use this table only if the solvent blend does not match any of the solvent blends in Table 4 to this subpart and you only know whether the blend is aliphatic or aromatic.

<sup>b</sup> Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.

<sup>c</sup> Medium-flash Naphtha, High-flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

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