

(2) All of the product and packaging rotogravure or wide-web flexographic printing presses at a facility plus any other equipment at that facility which the owner or operator chooses to include in accordance with paragraph (a)(3) of this section, except

(i) Proof presses, and

(ii) Any product and packaging rotogravure or wide-web flexographic press which is used primarily for coating, laminating, or other operations which the owner or operator chooses to exclude, provided that

(A) The sum of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press using product and packaging rotogravure work stations and the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press using wide-web flexographic print stations in each month never exceeds five weight-percent of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press in that month, including all inboard and outboard stations, and

(B) The owner or operator maintains records as required in § 63.829(f).

(3) The owner or operator of an affected source, as defined in paragraph (a)(2) of this section, may elect to include in that affected source stand-alone coating equipment subject to the following provisions:

(i) Stand-alone coating equipment meeting any of the criteria specified in this subparagraph is eligible for inclusion:

(A) The stand-alone coating equipment and one or more product and packaging rotogravure or wide-web flexographic presses are used to apply solids-containing materials to the same web or substrate, or

(B) The stand-alone coating equipment and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material, or

(C) A common control device is used to control organic HAP emissions from the stand-alone coating equipment and from one or more product and pack-

aging rotogravure or wide-web flexographic printing presses;

(ii) All eligible stand-alone coating equipment located at the facility is included in the affected source; and

(iii) No product and packaging rotogravure or wide-web flexographic presses are excluded from the affected source under the provisions of paragraph (a)(2)(ii) of this section.

(b) Each product and packaging rotogravure or wide-web flexographic printing affected source at a facility that is a major source of HAP, as defined in 40 CFR 63.2, that complies with the criteria of paragraphs (b)(1) or (b)(2) on and after the applicable compliance date as specified in § 63.826 of this subpart is subject only to the requirements of § 63.829(e) and § 63.830(b)(1) of this subpart.

(1) The owner or operator of the source applies no more than 500 kg per month, for every month, of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials on product and packaging rotogravure or wide-web flexographic printing presses, or

(2) The owner or operator of the source applies no more than 400 kg per month, for every month, of organic HAP on product and packaging rotogravure or wide-web flexographic printing presses.

(c) Each product and packaging rotogravure or wide-web flexographic printing affected source at a facility that is a major source of HAP, as defined in 40 CFR 63.2, that complies with neither the criterion of paragraph (b)(1) nor (b)(2) of this section in any month after the applicable compliance date as specified in § 63.826 of this subpart is, starting with that month, subject to all relevant requirements of this subpart and is no longer eligible to use the provisions of paragraph (b) of this section, even if in subsequent months the affected source does comply with the criteria of paragraphs (b)(1) or (b)(2) of this section.

**§ 63.822 Definitions.**

(a) All terms used in this subpart that are not defined below have the meaning given to them in the CAA and in subpart A of this part.

*Always-controlled work station* means a work station associated with a dryer from which the exhaust is delivered to a control device, with no provision for the dryer exhaust to bypass the control device. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

*Capture efficiency* means the fraction of all organic HAP emissions generated by a process that are delivered to a control device, expressed as a percentage.

*Capture system* means a hood, enclosed room, or other means of collecting organic HAP emissions into a closed-vent system that exhausts to a control device.

*Car-seal* means a seal that is placed on a device that is used to change the position of a valve or damper (e.g., from open to closed) in such a way that the position of the valve or damper cannot be changed without breaking the seal.

*Certified product data sheet (CPDS)* means documentation furnished by suppliers of inks, coatings, varnishes, adhesives, primers, solvents, and other materials or by an outside laboratory that provides the organic HAP content of these materials, by weight, measured using Method 311 of appendix A of this part 63 or an equivalent or alternative method (or formulation data as provided in §63.827(b)) and the solids content of these materials, by weight, determined in accordance with §63.827(c). The purpose of the CPDS is to assist the owner or operator in demonstrating compliance with the emission limitations presented in §§63.824-63.825.

*Coating operation* means the application of a uniform layer of material across the entire width of a substrate.

*Coating station* means a work station on which a coating operation is conducted.

*Control device* means a device such as a carbon adsorber or oxidizer which reduces the organic HAP in an exhaust gas by recovery or by destruction.

*Control device efficiency* means the ratio of organic HAP emissions recovered or destroyed by a control device to the total HAP emissions that are introduced into the control device, expressed as a percentage.

*Day* means a 24-consecutive-hour period.

*Facility* means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

*Flexographic press* means an unwind or feed section, a series of individual work stations, one or more of which is a flexographic print station, any dryers (including interstage dryers and overhead tunnel dryers) associated with the work stations, and a rewind, stack, or collection station. The work stations may be oriented vertically, horizontally, or around the circumference of a single large impression cylinder. Inboard and outboard work stations, including those employing any other technology, such as rotogravure, are included if they are capable of printing or coating on the same substrate.

*Flexographic print station* means a work station on which a flexographic printing operation is conducted. A flexographic print station includes a flexographic printing plate which is an image carrier made of rubber or other elastomeric material. The image (type and art) to be printed is raised above the printing plate.

*HAP applied* means the organic HAP content of all inks, coatings, varnishes, adhesives, primers, solvent, and other materials applied to a substrate by a product and packaging rotogravure or wide-web flexographic printing affected source.

*HAP used* means the organic HAP applied by a publication rotogravure printing affected source, including all organic HAP used for cleaning, parts washing, proof presses, and all organic HAP emitted during tank loading, ink mixing, and storage.

*Intermittently-controllable work station* means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device depending on the position of a valve or damper. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

*Month* means a calendar month or a prespecified period of 28 days to 35 days.

*Never-controlled work station* means a work station which is not equipped with provisions by which any emissions, including those in the exhaust from any associated dryer, may be delivered to a control device.

*Overall Organic HAP control efficiency* means the total efficiency of a control system, determined either by:

(1) The product of the capture efficiency and the control device efficiency or

(2) A liquid-liquid material balance.

*Print station* means a work station on which a printing operation is conducted.

*Printing operation* means the formation of words, designs, and pictures on a substrate other than fabric through the application of material to that substrate.

*Product and packaging rotogravure printing* means the production, on a rotogravure press, of any printed substrate not otherwise defined as publication rotogravure printing. This includes, but is not limited to, folding cartons, flexible packaging, labels and wrappers, gift wraps, wall and floor coverings, upholstery, decorative laminates, and tissue products.

*Proof press* means any device used only to check the quality of the image formation of rotogravure cylinders or flexographic plates, which prints only non-saleable items.

*Publication rotogravure printing* means the production, on a rotogravure press, of the following saleable paper products:

(1) Catalogues, including mail order and premium,

(2) Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,

(3) Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point of purchase and other printed display material,

(4) Magazines,

(5) Miscellaneous advertisements, including brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,

(6) Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,

(7) Periodicals, and

(8) Telephone and other directories, including business reference services.

*Research or laboratory equipment* means any equipment for which the primary purpose is to conduct research and development into new processes and products, where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

*Rotogravure press* means an unwind or feed section, a series of one or more work stations, one or more of which is a rotogravure print station, any dryers associated with the work stations, and a rewind, stack, or collection section. Inboard and outboard work stations including those employing any other technology, such as flexography, are included if they are capable of printing or coating on the same substrate.

*Rotogravure print station* means a work station on which a rotogravure printing operation is conducted. A rotogravure print station includes a rotogravure cylinder and ink supply. The image (type and art) to be printed is etched or engraved below the surface of the rotogravure cylinder. On a rotogravure cylinder the printing image consists of millions of minute cells.

*Stand-alone coating equipment* means an unwind or feed section, a series of one or more coating stations and any associated dryers, and a rewind, stack or collection section that:

Is not part of a product and packaging rotogravure or wide-web flexographic press, and

Is used to conduct one or more coating operations on a substrate. Stand-alone coating equipment

May or may not process substrate that is also processed by a product and packaging rotogravure or wide-web flexographic press, apply solids-containing materials that are also applied by a product and packaging rotogravure or wide-web flexographic press, and utilize a control device that is also utilized by a product and packaging rotogravure or wide-web flexographic

press. Stand-alone coating equipment is sometimes referred to as "off-line" coating equipment.

*Wide-web flexographic press* means a flexographic press capable of printing substrates greater than 18 inches in width.

*Work station* means a unit on a roto-gravure or wide-web flexographic press where material is deposited onto a substrate.

(b) The symbols used in equations in this subpart are defined as follows:

(1)  $C_{ahi}$ =the monthly average, as-applied, organic HAP content of solids-containing material, i, expressed as a weight-fraction, kg/kg.

(2)  $C_{asi}$ =the monthly average, as applied, solids content, of solids-containing material, i, expressed as a weight-fraction, kg/kg.

(3)  $C_{hi}$ =the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, kg/kg.

(4)  $C_{hij}$ =the organic HAP content of solvent j, added to solids-containing material i, expressed as a weight-fraction, kg/kg.

(5)  $C_{hj}$ =the organic HAP content of solvent j, expressed as a weight-fraction, kg/kg.

(6)  $C_i$ =the organic volatile matter concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 25 or Method 25A.

(7)  $C_{si}$ =the solids content of ink or other material, i, expressed as a weight-fraction, kg/kg.

(8)  $C_{vi}$ =the volatile matter content of ink or other material, i, expressed as a weight-fraction, kg/kg.

(9) E=the organic volatile matter control efficiency of the control device, percent.

(10) F=the organic volatile matter capture efficiency of the capture system, percent.

(11)  $G_i$ =the mass fraction of each solids containing material, i, which was applied at 20 weight-percent or greater solids content, on an as-applied basis, kg/kg.

(12) H=the total monthly organic HAP applied, kg.

(13)  $H_a$ =the monthly allowable organic HAP emissions, kg.

(14)  $H_L$ =the monthly average, as-applied, organic HAP content of all sol-

ids-containing materials applied at less than 0.04 kg organic HAP per kg of material applied, kg/kg.

(15)  $H_s$ =the monthly average, as-applied, organic HAP to solids ratio, kg organic HAP/kg solids applied.

(16)  $H_{si}$ =the as-applied, organic HAP to solids ratio of material i.

(17)  $L$ =the mass organic HAP emission rate per mass of solids applied, kg/kg.

(18)  $M_{Bi}$ =the sum of the mass of solids-containing material, i, applied on intermittently-controllable work stations operating in bypass mode and the mass of solids-containing material, i, applied on never-controlled work stations, in a month, kg.

(19)  $M_{Bj}$ =the sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on intermittently-controllable work stations operating in bypass mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on never-controlled work stations, in a month, kg.

(20)  $M_{ci}$ =the sum of the mass of solids-containing material, i, applied on intermittently-controllable work stations operating in controlled mode and the mass of solids-containing material, i, applied on always-controlled work stations, in a month, kg.

(21)  $M_{cj}$ =the sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on intermittently-controllable work stations operating in controlled mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on always-controlled work stations in a month, kg.

(22)  $M_f$ =the total organic volatile matter mass flow rate, kg/h.

(23)  $M_{fi}$ =the organic volatile matter mass flow rate at the inlet to the control device, kg/h.

(24)  $M_{fo}$ =the organic volatile matter mass flow rate at the outlet of the control device, kg/h.

(25)  $M_{hu}$ =the mass of organic HAP used in a month, kg.

(26)  $M_i$ =the mass of ink or other material, i, applied in a month, kg.

(27)  $M_{ij}$ =the mass of solvent, thinner, reducer, diluent, or other non-solids-

containing material, j, added to solids-containing material, i, in a month, kg.

(28)  $M_{i,j}$ =the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied in a month, kg.

(29)  $M_{L,j}$ =the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, added to solids-containing materials which were applied at less than 20 weight-percent solids content, on an as-applied basis, in a month, kg.

(30)  $M_{v,r}$ =the mass of volatile matter recovered in a month, kg.

(31)  $M_{v,u}$ =the mass of volatile matter, including water, used in a month, kg.

(32)  $MW_i$ =the molecular weight of compound i in the vent gas, kg/kg-mol.

(33) n=the number of organic compounds in the vent gas.

(34) p=the number of different inks, coatings, varnishes, adhesives, primers, and other materials applied in a month.

(35) q=the number of different solvents, thinners, reducers, diluents, or other non-solids-containing materials applied in a month.

(36)  $Q_{sd}$ =the volumetric flow rate of gases entering or exiting the control device, as determined by Method 2, dscm/h.

(37) R=the overall organic HAP control efficiency, percent.

(38)  $R_e$ =the overall effective organic HAP control efficiency for publication rotogravure, percent.

(39)  $R_v$ =the organic volatile matter collection and recovery efficiency, percent.

(40) S=the mass organic HAP emission rate per mass of material applied, kg/kg.

(41) 0.0416=conversion factor for molar volume, kg-mol/m<sup>3</sup>(@ 293 K and 760 mmHg).

**§ 63.823 Standards: General.**

Table 1 to this subpart provides cross references to the 40 CFR part 63, subpart A, general provisions, indicating the applicability of the general provisions requirements to this subpart KK.

**§ 63.824 Standards: Publication rotogravure printing.**

(a) Each owner or operator of any publication rotogravure printing af-

ected source that is subject to the requirements of this subpart shall comply with these requirements on and after the compliance dates as specified in § 63.826 of this subpart.

(b) Each publication rotogravure affected source shall limit emissions of organic HAP to no more than eight percent of the total volatile matter used each month. The emission limitation may be achieved by overall control of at least 92 percent of organic HAP used, by substitution of non-HAP materials for organic HAP, or by a combination of capture and control technologies and substitution of materials. To demonstrate compliance, each owner or operator shall follow the procedure in paragraph (b)(1) of this section when emissions from the affected source are controlled by a solvent recovery device, the procedure in paragraph (b)(2) of this section when emissions from the affected source are controlled by an oxidizer, and the procedure in paragraph (b)(3) of this section when no control device is used.

(1) Each owner or operator using a solvent recovery device to control emissions shall demonstrate compliance by showing that the HAP emission limitation is achieved by following the procedures in either paragraph (b)(1)(i) or (b)(1)(ii) of this section:

(i) Perform a liquid-liquid material balance for each month as follows:

(A) Measure the mass of each ink, coating, varnish adhesive, primer, solvent, and other material used by the affected source during the month.

(B) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent and other material used by the affected source during the month following the procedure in § 63.827(b)(1).

(C) Determine the volatile matter content, including water, of each ink, coating, varnish, adhesive, primer, solvent, and other material used by the affected source during the month following the procedure in § 63.827(c)(1).

(D) Install, calibrate, maintain and operate, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The