

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  $\pm 2.0$  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 (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:

$$R_V = 100 \frac{M_{VR}}{\sum_{i=1}^m M_i W_{V,i}} \quad (\text{Eq. 6})$$

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.

$W_{V,i}$  = 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.