Step-by-Step I Compliance Demonstration
Multiple Oxidizers
'63.3370(n)(3)

Overview: This approach is valid when using an oxidizer with one or more never- or intermittently-controlled work stations, and multiple oxidizers with always controlled work stations to demonstrate compliance with MACT limits on a monthly average as-applied basis.

In this approach, a facility needs to:

1. Follow Step-by-Steps A, B1, B2, or B3 compliance demonstrations.
2. Follow Step-by-Step C compliance demonstration.
3. Calculate organic HAP emitted.
4. Convert the monitoring or other data into units of the selected control option.
5. Determine compliance with MACT limits.
6. Maintain monitoring and other compliance records.

MACT limits

Existing Sources

$H_e/H_m \leq 0.05$

or

$S \leq 0.04$ kg HAP/kg coating

or

$L \leq 0.20$ kg HAP/kg solids

or

$H_e \leq H_a$

New Sources

$H_e/H_m \leq 0.02$

or

$L \leq 0.016$ kg HAP/kg coating

or

$S \leq 0.08$ kg HAP/kg solids

or

$H_e \leq H_a$

Detailed Approach	Citation
1. Follow Step-by-Step A, B1, B2, or B3 Compliance Demonstration. • Identify all coatings and additives used in the process. • Gather "NESHAP quality" data for each coating and additive used in the process (mass and solids content) ['63.3370(k)(1)(iv) and (vi)] • Determine HAP content data per unit of coating or per unit of solids ['63.3370(k)(1)(v)].	'63.3370(n)(3)
2. Follow Step-by-Step C Compliance Demonstration. • Demonstrate oxidizer destruction efficiency ['63.3370(k)(1)(i)] • Demonstrate capture system efficiency ['63.3370(k)(1)(ii)] • Continuously monitor operating parameters for capture system ['63.3370(k)(1)(iii)] • Calculate overall control efficiency ['63.3370(k)(2)(i)]	'63.3370(n)(3)
3. Calculate organic HAP emitted. • For **always-controlled workstations and multiple SRS,** calculate the organic HAP emitted, H_e, on a monthly basis using equation 12 ['63.3370(k)(2)(ii)] for each control device. • For **one or more never-controlled or intermittently-controlled workstations:** o Determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in	§63.3370(n)(3)(iii)(A) '63.3370(n)(2)(ii)(B) '63.3370(o)(1)

Step-by-Step I Compliance Demonstration
Multiple Oxidizers
§63.3370(n)(3)

Detailed Approach	Citation
bypass mode and the mass of all coating materials as-applied on never-controlled work stations, M_{Bi}.	
o Determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in controlled mode and the mass of all coating materials as-applied on always-controlled work stations, M_{ci}.	§63.3370(o)(2)
o Calculate the organic HAP emitted on a monthly basis using Equation 15 for each control device. *This equation sums the HAP applied while the system is controlled times the control efficiency (to get HAP emitted during controlled periods) and adds the total HAP applied (which equals HAP emitted) during uncontrolled periods. Any solvent documented as retained in tape is then subtracted.*	§63.3370(o)(4)
• For **uncontrolled coating lines,** determine the organic HAP applied on those web coating lines using Equation 6 (§63.3370(d)). *The organic HAP emitted from an uncontrolled web coating line is equal to the organic HAP applied on that coating line.*	§63.3370(n)(4)
• Calculate the cumulative organic HAP emissions for the affected source for the month by summing all the organic HAP emissions calculated.	§63.3370(n)(5)(i)
4. Convert the monitoring or other data into units of the selected control option.	§63.3370(n)(5)
Control Option 1: Capture and control to reduce emissions to no more than the allowable limit [§63.3370(e)]	§63.3370(n)(6)(iv)
• Determine the mass percentage of total HAP emitted.	
o Using the value of H_e calculated from either equation 12 or equation 15 (see item 3 of this detailed approach) and H_m calculated from equation 6 (see item 3 of this detailed approach) calculate the percentage of HAP emitted for the reporting month: Percentage of HAP emitted = H_e/H_m	
Option 2: Capture and control to achieve mass fraction of coating solids applied [§63.3370(f)]:	§63.3370(n)(5)(iii)
• Calculate the HAP emitted based on coating solids applied, L, for the reporting month (kg HAP/kg coating) using Equation 9 (§63.3370(k)(2)(iii)).	Equations may be simplified by not distinguishing between coating products and additive products ($C_{si} = C_{sij}$ and $M_i = M_{ij}$).
o Use the coating solids content of each coating material under item 2 of this detailed approach	
o Use the organic HAP emitted, H_e, calculated under item 3 of this detailed approach.	

Step-by-Step I Compliance Demonstration
Multiple Oxidizers
'63.3370(n)(3)

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Option 3: Capture and control to achieve mass fraction of coating applied ['63.3370(g)]: • Calculate the HAP emitted based on coating materials applied, S, for the reporting month (kg HAP/kg coating) using Equation 10 (§63.3370(k)(2)(iv)). o Use the organic HAP emitted, H_e, calculated under item 3 of this detailed approach.	§63.3370(n)(5)(iv)
Option 4: Capture and control to achieve allowable emission rate ['63.3370(h)]: • Determine allowable HAP emissions. • Monthly organic HAP emissions ≤ allowable HAP. • Calculate the monthly allowable organic HAP emissions o Use the as-purchased mass of each coating material applied and the as-purchased coating solids content of each coating material applied (see item 1 of this detailed approach). o Determine the as-purchased mass fraction of each coating material which was applied at 20 mass percent or greater coating solids content on an as-applied basis. o Determine the total mass of each solvent, diluent, thinner, or reducer added to coating materials which were applied at less than 20 mass percent coating solids content on an as-applied basis each month. o Calculate the monthly allowable organic HAP emission rate (H_a) using Equation 13a for existing sources or Equation 13b for new sources.	§63.3370(l) and (n)(6)(iii)
5. Determine compliance with MACT limits. For *existing* affected sources, you are in compliance if: • Option 1: $H_e/H_m \leq 0.05$, OR • Option 2: L ≤ to 0.20 kg HAP/kg solids, OR • Option 3: S ≤ to 0.04 kg HAP/kg coating, OR • Option 4: $H_e \leq H_a$ For *new* affected sources, you are in compliance if: • Option 1: $H_e/H_m \leq 0.02$, OR • Option 2: L ≤ 0.08 kg HAP/kg solids, OR • Option 3: S ≤ 0.16 kg HAP/kg coating, OR • Option 4: $H_e \leq H_a$	§63.3370(n)(6)

Step-by-Step I Compliance Demonstration
Multiple Oxidizers
§63.3370(n)(3)

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6. Maintain monitoring and other compliance records.	
• Maintain continuous monitoring records of volatile matter recovered by the solvent recovery device.	§63.3410(a)(1)(i)
• Maintain records of control device and capture system operating parameter data.	§63.3410(a)(1)(ii)
• Maintain records of organic HAP content data.	§63.3410(a)(1)(iii)
• Maintain records of volatile matter and coating solids content data.	§63.3410(a)(1)(iv)
• Maintain records of overall control efficiency determination using capture efficiency and removal efficiency test results.	§63.3410(a)(1)(v)
• Maintain records of all material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations.	§63.3410(a)(1)(vi)
• Maintain maintenance and calibration records for each mass flow meter	§63.3410(a)(2) and §63.10(c)

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