

CHECKLIST A
COMPLIANCE CHECKLIST FOR BATCH VAPOR MACHINES
Halogenated Solvent Cleaning NESHAP

1 Background Information

Cleaning machine ID No: _____

Solvent-air interface area: _____ m² or ft²

or if no solvent-air interface area

Cleaning Capacity: _____ m³ or ft³

Indicate the applicable compliance option chosen by operator:

_____ Base design + work practices + control combination

_____ Base design + work practices + idling emission limit

_____ Alternate standard (i.e., overall emission limit)

For: _____ Complete the following Sections of this Checklist:

Control combination 2, 3, 5, 6

Idling emission limit 2, 4, 5, 6

Overall emission limit 4, 5, 6

2 Base Design and Work Practices

Complete the tables below by filling in any required measurements, calculations, or observations, and check either yes or no to document compliance.

2.1 Base Design Requirements

Requirement	Parameter	Measurement, Calculation, or Observation	In Compliance?	
			Yes	No
Working mode cover <u>or</u>	Idling and downtime cover, tightly fitting and free of holes, cracks, or other defects.			
Reduced room draft		Average wind speed: _____		
	* Room draft not exceeding 15.2 m/min (50 ft/min) * Room conditions same as when last calculated			
Freeboard ratio	Ratio of 0.75 or greater	Freeboard ratio: _____		

Requirement	Parameter	Measurement, Calculation, or Observation	In Compliance?	
			Yes	No
Automated parts handling	Has automated handling system moving at 3.4 m/min (11 ft/min) or less.	Handling speed: _____		
Liquid and vapor level indicators to shut off sump heat	Present and functioning			
Primary condenser	Maintains a controlled vapor zone			
Lip exhaust carbon adsorber (if applicable)	Working-mode exhaust not exceeding 100 ppm halogenated solvent	Outlet concentration: _____		

2.2 Work Practice Requirements

Work Practice Requirement	In Compliance?	
	Yes	No
Maintain equipment as recommended by manufacturer.		
Control air disturbances across cleaning machine openings by (check one): * Keeping cover(s) in place during idling and downtime _____ <u>or</u> * Room draft reduction _____		
<u>For open-top machines</u> , ensure that parts or parts baskets do not occupy more than 50% of the solvent-air interface area, or introduce the parts or baskets at a speed of 0.9 m/min (3 ft/min) or less.		
Perform all spraying operations within the vapor zone or within a section of the machine that is not directly exposed to ambient air.		
Orient parts so that the solvent drains from them freely.		
When starting up, turn on the primary condenser before the sump heater. When shutting down, turn off sump heater before the primary condenser.		
Add or drain solvent using threaded or other leak-proof couplings, and ensure that the end of the pipe or hose introducing or withdrawing solvent is located beneath the liquid solvent surface.		
Collect and store waste solvent, still bottoms, and sump bottoms in closed containers.		
Do not clean absorbent materials, such as sponges, fabric, wood, and paper, in the machine.		
Operators must complete and pass applicable sections of the Test of Solvent Cleaning Procedures (Appendix B of Part 63, Subpart T).		

3 Control Combinations

Circle the Control Combination number in the table below that applies to this machine. Then complete the compliance inspection information in the sections for the applicable controls following this table.

Batch Vapor Cleaning Machine Size	Control Combination (circle the number that applies)	Controls						
		Working Mode Cover	1.0 Freeboard Ratio	Super Heated Vapor	Freeboard Refrigeration	Reduced Room Draft	Carbon Adsorber	Dwell
Solvent-air Interface Area <u>Less than</u> or equal to 1.21 m ² (13 ft ²)	1	✓	✓	✓				
	2			✓	✓			
	3	✓			✓			
	4		✓	✓		✓		
	5				✓	✓		
	6		✓			✓		
Solvent-air Interface Area <u>Less than</u> or equal to 1.21 m ² (13 ft ²) (Continued)	7				✓			✓
	8		✓			✓		✓
	9				✓		✓	
	10		✓	✓			✓	
Solvent-air Interface Area <u>Greater than</u> 1.21 m ² (13 ft ²)	1		✓	✓	✓			
	2				✓	✓		✓
	3	✓		✓	✓			
	4		✓	✓		✓		
	5			✓	✓	✓		
	6		✓		✓	✓		
	7			✓	✓		✓	

Write yes if in compliance and no if not in compliance.

3.1 Working Mode Cover

- _____ Cover must be closed over entire cleaning machine opening at all times except during parts entry and removal.
- _____ Cover must be inspected monthly to ensure that it opens and closes properly and is free of cracks, holed, and other defects.
- _____ Record the results and retain the records for 5 years.

3.2 Freeboard Ratio of 1.0

- _____ Ensure and obtain certification from the manufacturer that the freeboard height is greater than or equal to the interior freeboard width.
- _____ Document the freeboard ratio (freeboard height divided by the smallest interior freeboard width). Also document any modifications to the freeboard.

Freeboard ratio (if measured and calculated during inspection): _____

3.3 Superheated Vapor

- _____ Solvent vapor at the center of the superheated vapor zone must be heated to at least 10°F above the solvent boiling point.
Temperature at center of zone _____
Solvent boiling point _____
Temperature difference _____
- _____ Parts must remain in the superheated vapor zone for the manufacturer's recommended dwell time.
- _____ The temperature at the center of the superheated vapor zone must be measured and recorded weekly while the machine is idling. Retain the records for 5 years.

3.4 Freeboard Refrigeration

- _____ Air in the freeboard must be at a temperature no greater than 30 percent of the solvent boiling point.
Temperature in freeboard _____
Solvent boiling point _____
Temperature as % of boiling point _____
- _____ The air blanket temperature above the vapor zone must be measured and recorded weekly while the machine is idling. Retain the records for 5 years.

3.5 Reduced Room Draft

_____ The average windspeed in the room or enclosure must be less than or equal to 15.2 m/min (50 ft/min). The room conditions established during the initial test must be maintained and monitored weekly.

Average wind speed _____

Required room conditions maintained: Yes ___ No ___

_____ If an enclosure is used to achieve reduced room draft, the condition of the enclosure must be checked monthly.

_____ If no enclosure is used, windspeed must be measured and recorded *quarterly*. If the machine is enclosed, windspeed must be measured and recorded *monthly*. Windspeed must be measured immediately if the enclosure is modified. Retain the records for 5 years.

3.6 Carbon Adsorber (with Lip Exhaust)

_____ Halogenated solvent concentration in the exhaust cannot exceed 100 ppm.

Exhaust concentration (ppm) _____

The carbon bed cannot be bypassed during desorption.

The lip exhaust must be located above the cover.

_____ The exhaust concentration of the halogenated solvent must be measured and recorded *weekly*. Retain the records for 5 years.

3.7 Dwell

_____ Determine the proper dwell time for each type of part or parts basket to be cleaned, and ensure that parts are held in the freeboard area above the vapor zone for the proper dwell time.

Proper dwell time recorded (sec) _____

Actual measured dwell time (sec) _____

_____ Record the calculated proper dwell time, and retain a record of the calculation for the lifetime of the machine. Measured actual dwell time must be measured and recorded *monthly*. Retain records of actual dwell time measurements for 5 years.

4 Idling Emission Limit

Write yes if in compliance and no if not in compliance.

_____ An initial compliance test has been performed using Reference Method 307 to demonstrate that the machine can meet an emission limit of 0.10 kg/hr-m² (0.021 lbs/hr-ft²) when idling

Measured idling emission rate _____

Identify and monitor the operating parameters established to demonstrate compliance. For example, if a control from the Control Combination section of the rule was used, the requirements for that control must be followed.

Periodic monitoring of parameters performed
Machine is operated within the established parameters

Retain the results of the initial test, including the idling emission rate and values of monitoring parameters measured, for the life of the machine.

5 Alternative Standard (Overall Emission Limit) Complete one of the sections below based on whether the machine being inspected has a surface-air interface.

Write yes if in compliance and no if not in compliance.

5.1 Machines with Surface-air Interface

The 3-month rolling average emissions of listed solvent from the machine, calculated monthly, must not exceed 153 kg/m²-month (31.4 lbs/ft²-month for an existing machine or 99 kg/m² - month (20 lbs./ft² month) for a new machine). Perform the calculations on the first operating day of every month.

Machine meets the 3-month rolling average limit

On the first operating day of every month, ensure that the solvent cleaning machine contains only clean solvent, and that the solvent is returned to the original fill line prior to calculating monthly emissions.

Maintain records of dates and amounts of solvent added to the machine and solvent in the wastes removed from the machine (for 5 years).

Maintain records of calculations of monthly and 3-month rolling average emissions (for 5 years).

5.2 Machines without Surface-air Interface

The monthly emissions of listed solvent from the machine must not exceed the emission limited determined using Table 6 or Equation 1 of 40 CFR 63.464. (For cleaning capacity less than or equal to 2.95 m³, use either Table 6 or Equation 1. For cleaning capacity greater than 2.95 m³, use Equation 1.) Perform the calculations on the first operating day of every month.

Overall emission limit: _____

Machine meets the monthly limit

On the first operating day of every month, ensure that the solvent cleaning machine contains only clean solvent, and that the solvent is returned to the original fill line prior to calculating monthly emissions.

Maintain records of dates and amounts of solvent added to the machine and solvent in the wastes removed from the machine (for 5 years).

Maintain records of the method used to determine the cleaning capacity of the machine.

Maintain records of calculations of monthly emissions (for 5 years).

6 General Testing and Recordkeeping Requirements

Write yes if in compliance and no if not in compliance.

6.1 Testing

Determine the potential to emit from all solvent cleaning operations at the facility _____ (kg/yr)

6.2 Records Retained For Lifetime of Machine

_____ Owner's manual or, if not available, written maintenance and operating procedures for the solvent cleaning machine and control equipment.

_____ The date of installation for the solvent cleaning machine and all control devices. (If exact date is unknown, a letter certifying that the machine and controls were installed prior to, on, or after 11/29/93 can be substituted.)

_____ Halogenated HAP solvent content for each listed solvent used in the machine.

6.3 Records Retained For 5 Years

_____ For owner/operators using control combination or idling emission limit, maintain estimates of annual solvent consumption for the machine.

7 Reporting Requirements

<u>For:</u>	<u>Complying with:</u>	<u>Complete:</u>
New machines	Control combination or idling emission limit	7.1 and 7.3
New machines	Overall emission limit (i.e., alternative standard)	7.1 and 7.4
Existing machines	Control combination or idling emission limit	7.2 and 7.3
Existing machines	Overall emission limit (i.e., alternative standard)	7.3 and 7.4

Write yes if in compliance and no if not in compliance.

7.1 New Machines:

_____ If construction or reconstruction had commenced but initial startup had not occurred before 12/2/94, an initial notification report was submitted before startup, but no later than 1/31/95.

OR

_____ If construction or reconstruction began or will begin after 12/2/94, an initial notification report has been submitted as soon as possible before starting construction or reconstruction of the machine.

The *initial notification report* comprises the following:

- _____ Description of machine, including type and existing controls
- _____ Anticipated compliance approach
- _____ Estimate of annual halogenated solvent consumption

_____ An initial statement of compliance has been submitted no later than 150 days after startup or 5/1/95, whichever is later.

7.2 For Existing Machines:

_____ An *initial notification report* was submitted no later than 8/29/95.

The *initial notification report* comprises the following:

- _____ Owner/operator name and address
- _____ Address (i.e., physical location of machine)
- _____ Description of machine, including type, solvent-air interface area, and existing controls
- _____ Installation date of the machine or letter certifying installation before or after 11/29/93
- _____ Anticipated compliance approach
- _____ Estimate of annual halogenated solvent consumption

7.3 Control Combinations and Idling Emission Limit

The *initial statement of compliance* comprises:

- _____ Owner/operator name and address
- _____ Address (i.e., physical location) of the machine
- _____ List of control equipment used to achieve compliance
- _____ List of parameters monitored for each control and the values measured on or during the first month after the compliance date
- _____ Conditions to maintain wind speed requirements, if applicable
- _____ A test report on tests of idling emissions meeting the specifications in Reference Method 307 and complying with the requirements of §63.468(d)(6)(i) through §63.468(d)(6)(iv), if applicable
- _____ Date and results of the weekly measurement of the halogenated HAP solvent concentration in the carbon adsorber exhaust, if applicable

_____ An annual report must be submitted by February 1 of the year following the one for which the report is being made.

The *annual report* comprises:

- _____ A signed statement from the facility owner or the owner's designee stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required in §63.643(d)(10)."
- _____ An estimate of solvent consumption for each solvent cleaning machine during the reporting period

[Note: Reporting requirements under §63.468(f) and (g) can be combined into one report.]

- _____ An exceedance report is submitted semiannually unless it is determined that more frequent reporting is necessary to accurately assess compliance status.
- _____ Is operator required to report exceedances more frequently?
If yes, how often? _____
- _____ Is owner operator in compliance with reporting frequency?
- _____ Has owner operator met requirements in §63.468(i) and, thus, return to semiannual reporting?

The *exceedance report* comprises

- _____ Records of written or verbal orders for replacement parts, a description of repairs to be made, and additional monitoring conducted to demonstrate that monitored values have returned to accepted levels
- _____ If an exceedance has occurred, the reason for the exceedance and a description of the actions taken
- _____ If no exceedance of a parameter has occurred, or a piece of equipment has not been inoperative, out of control, repaired or adjusted, a statement to this effect

7.4 Overall Emission Limit (i.e., Alternative Standard)

The *initial statement of compliance* comprises

- _____ Owner/operator name and address
- _____ Address (i.e., physical location) of the machine
- _____ Solvent-air interface area or, for machines without solvent-air interface, a description of the method used to determine cleaning capacity
- _____ Results of the first 3-month average emissions calculations
- _____ A solvent emission report must be submitted every year.

The solvent *emission report* comprises:

- _____ Type and size of each unit subject to this NESHP
- _____ Average monthly solvent consumption in kilograms/month
- _____ The 3-month rolling average solvent emission estimates calculated each month

[Note: Reporting requirements under §63.468(f) and (g) can be combined into one report.]

- _____ An *exceedance report* must be submitted semiannually unless it is determined that more frequent reporting is necessary to accurately assess compliance status.
- _____ Is owner/operator required to report exceedances more frequently?
If yes, how often? _____
- _____ Is owner operator in compliance with the appropriate reporting frequency?

_____ Has owner operator met requirements in §63.468(i) and, thus, return to semiannual reporting?

The *exceedance report* comprises:

_____ Records of written or verbal orders for replacement parts, a description of repairs to be made, and additional monitoring conducted to demonstrate that monitored values have returned to accepted levels

_____ If an exceedance has occurred, the reason for the exceedance and a description of the actions taken

_____ If no exceedance of a parameter has occurred, or a piece of equipment has not been inoperative, out of control, repaired or adjusted, a statement to this effect